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ABSTRACT

This collection of art units is intended to be incorporated into the curriculum throughout the career motivation program, kindergarten through grade six. The units use simulated classroom art projects to provide students with exposure to the work done in textile decoration. General information about the textile industry and textile decoration, a list of developmental objectives by grade level, and a list of resources precede the art units. These units cover the following areas: basic stitchery instruction, finishing stitchery, color combinations, fiber projects, applique, burlap projects, basic weaving, tapestry weaving, commercial looms, braiding and coiling with raffia, batik, crayon batik on cloth, printing, printing methods, linoleum printing, and printing designs. Several illustrated ideas, designs, and/or instructions are included with each unit. (BM)

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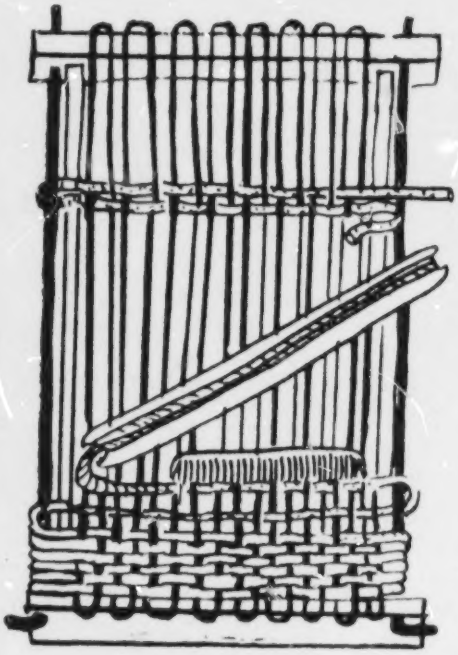
Career Awareness Through Textiles



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TOLEDO PUBLIC SCHOOLS

1975

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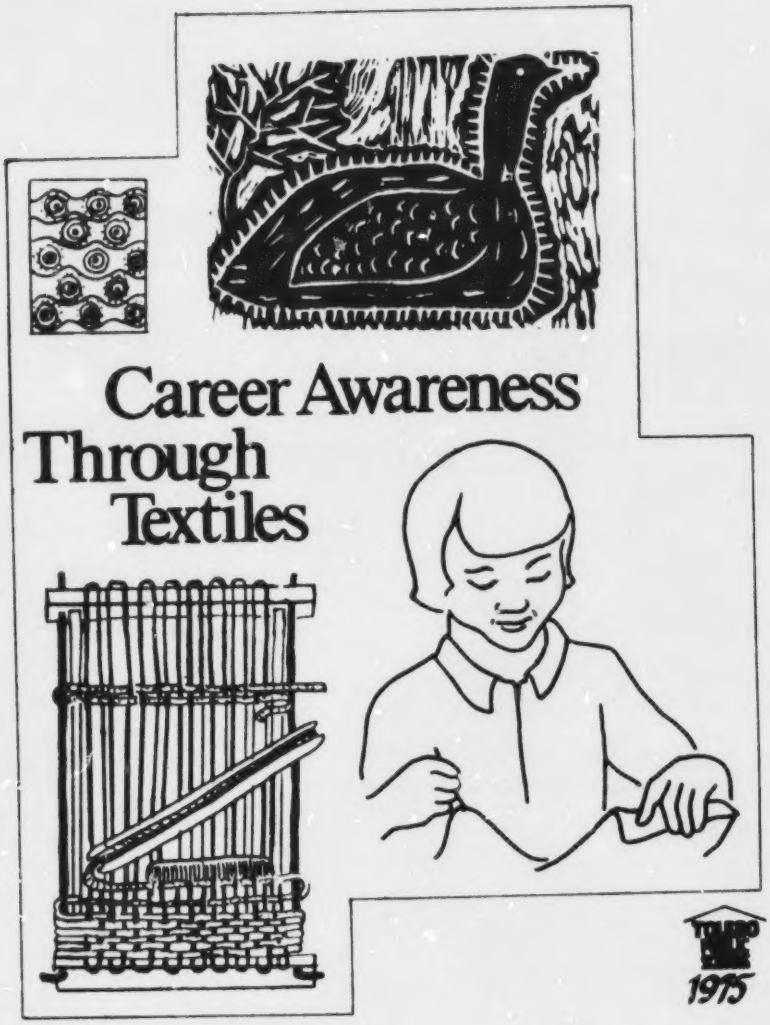

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> "The American textile industry provides one of our basic needs: clothing, as well as products for industrial and household uses. Nearly 1,000,000 people are employed in the manufacturing, marketing, and research and development aspects of this industry."

Including related industries, nearly 3.4 million Americans work in the textile industry. When one considers textiles as an "art", the employment picture includes such diversified possibilities as design, color dynamics, drawing and painting, composition, draftsmanship, art, advertising, creative writing and journalism. The possibilities expand geometrically when one reflects on textiles as an "industry" and as a "science."

The following is a collection of art units which can be incorporated into the curriculum throughout the career motivation program, kindergarten through grade six. The units use simulated classroom art projects to provide students with exposure to the work done in textile decoration. In correlation with these materials, there are a multitude of activities in language arts, social studies, mathematics, and science which can be employed by the instructor to expand the scope of the project. The materials are not intended to be all inclusive, but rather to provide the instructor with the art assistance he or she might need in the development of in-class activities to aid the student in their career development process. A packet of information dealing specifically with the textile industry is available from the career media center as well as audio-visual materials.

The information provided in this booklet has been developed by Beverly Domalski, director of art for the Toledo Public Schools, ans is being published as a result of the large number of requests received following a workshop conducted by Miss Domalski for the insturctors in the career motivation program.

ABOUT THE TEXTILE INDUSTRY...

EMPLOYEES

The American textile industry employs nearly 1 million people. Including closely related industries, such as those producing apparel, cotton, wool, man-made fibers and textile machinery, the employment figure is 3.4 million.

In addition to providing jobs requiring special technical training and skills—such as chemistry, engineering, and data processing—the industry also serves as a gateway to industrial employment for persons with little or no experience in manufacturing and offers opportunities for learning and advancement.

More than most other industries, textiles is giving employment to minorities. Blacks today make up nearly 14 percent of the textile work force, compared with an average of 10.7 percent for all manufacturing. Women, too, do well in textiles: 47 percent of the industry's workers are women, nearly twice the 29 percent figure for all manufacturing.

America's 1 million textile employees play an important role in the national economy. Each year they earn over $7 billion . . . pay $657 million in personal taxes . . . spend $1.8 billion for food, over $1 billion for housing and $466 million for transportation.

SIZE AND DISTRIBUTION

The American textile industry consists of about 700 companies operating an estimated 7,080 plants in 47 states. They make a wide variety of products—including yarn, woven and knit cloth, carpets, household furnishings, and industrial textiles. In recent decades the industry has been concentrating in the Southeast—notably in the Carolinas, Georgia, and Alabama—and this trend is continuing. Today, as the figures on the right show, the Mid-Atlantic region boasts slightly more plants with almost 40 percent of the total. However, the bulk of spinning, weaving and knitting operations are conducted in the Southeast region.

Sales from the goods produced by the nation's textile plants run to over $30 billion a year. Textile spending for new plants and equipment in the 1960's ranged between $300 million and $800 million annually and totaled an estimated $850 million in 1974.

RECENT DEVELOPMENTS

The desire of the American consumer for new, different and better products has brought about an internal revolution in textile making and marketing.

Until recently the textile industry was geared to turning out miles of basic cloth which was sold in the loom state to independent converters. Today, the trend is away from the idea of "selling what the industry produces" to "producing what the public wants and will buy."

As part of this philosophy, converting and finishing operations have been largely assumed by the primary textile industry. Textile makers now research, design and sell their own fabric directly to the apparel manufacturer. In the case of home furnishings such as sheets, towels, curtains and other household textile products, the list of items completely finished by the fabric maker, ready for retail sale, is growing.

In manufacturing, research emphasis has not only been on increasing speed and efficiency of existing machinery but in looking to new and different ways to form fabrics, some of which may be used in applications never before envisioned for textile products.

For example, the open end spinning machine is a recent development that eliminates part of the drawing and all of the roving operations mentioned in a previous section. The water jet loom replaces the banging of the shuttle with jets of water which shoot the filling yarn across the width of the fabric. The new machine is two or three times faster than conventional looms and requires less space. Still another new process, rotary screen printing, increases the speed of conventional screen printing by five to six times.

As for new textiles for new uses, the familiar durable press finish for fabric is considered just the beginning. Fiber producers are talking now about a generation of fibers with built-in crease and wrinkle resistance.

Brilliant new long-lasting colors in clothing and home furnishings are the result of developments in dyes, chemicals and finishing techniques. But researchers have not limited their interests to clothing and home furnishings. The first truly artificial heart implanted in a living person was a triumph of textile use and adaptation.

On a broader scale, textile researchers are looking into the use of laminated textiles as replacements for steel and aluminum in bridges and jet aircraft. Patents have been issued for structures which involve the use of spray-on plastics to give rigidity to fabric and thus replace traditional building materials.

Textiles are also playing a major role in space exploration. Applications range from protective clothing for the astronauts to heat shields for re-entry vehicles.

A government official has described textiles as second only to steel in importance to national defense. And, of course, textiles have always clothed, housed, and otherwise served our armed forces. Without uniforms, tarpaulins, tents, packs, cartridge belts, fabric warehouses and hospitals, no military force could function effectively. Beyond these essential but routine needs, U. S. armed forces are being equipped today with more exotic and sophisticated textile products—such as individual armor against shell fragments and small arms fire, thermally insulated clothing, aircraft landing mats, parachutes, and collapsible tanks for the storage of gasoline. Any large-scale conflict involving millions of American fighting men would require a major share of the nation's textile output and most of this would be oriented to the military's special needs.

The environment itself is not escaping the probing eye of textile researchers. Through filter materials and erosion-prevention substances for use in protecting the environment from pollution and other abuse, the textile industry is making an important contribution.

Career Awareness Through Textiles

Career Awareness Through Textiles

The American textile industry provides ideal grounds for introducing an occupational awareness project in your classroom. To help you in beginning such a project here is some material you will need: background information on the industry and its multitude of occupations; suggested approaches to lead into the project; and a variety of activities integrated into the curriculum you are already teaching.

BACKGROUND

You can say the American textile industry is as close to a child as the clothes on his back, in more than the literal sense. The industry supplies one of man's three basic needs, clothing. It contributes significantly to a second basic need—shelter—with products for household use and building construction.

It isn't stretching a point to say it figures in man's third basic need—food—when you consider the fabrics produced for agricultural and soil conservation uses. And it reaches into fields as diverse as transportation, recreation, medicine and space probes. It's an American heritage (started in 1790, it's the nation's first industry), and it exemplifies the American tradition of striving for a better way of life.

Fashion promotion specialists help with sales and marketing.

Most of all, it's people—more than one million of them working in some 7,000 plants in 47 states, fulfilling what might be called another basic need, the need for gainful occupation. With its triple role as an industry, a science and an art, there's no degree or type of education, skill, talent or ambition that can't find a place here. No matter what a child's interests are, he can find expression for them, for the scope of occupations in the textile industry encompasses nearly every vocational interest; almost every kind of job one can think of is in this industry.

As with any industry, production workers outnumber management, but overall opportunities are almost limitless, including opportunities for women, now numbering almost half the total employees.

Production, highly mechanized, calls for the qualifications of mechanical aptitude and ability. Also essential for most workers is good physical coordination, normal vision and manual dexterity. At the same time there are numerous opportunities for the handicapped.

There are also jobs at all skill levels and some production jobs require little formal education. There are apprentice-training programs, on-the-job instruction programs and in-plant classrooms in numerous plants. But as the need for skilled workers is increasing, more and more employers are emphasizing formal training in trade and vocational schools. Specialized training at professional schools, schools of business management, and colleges are requirements in specialized areas (designing, textile engineering and chemistry, marketing, etc.).

Promotion and advancement are comparatively swift, including ample opportunity for advancement from hourly paid to managerial jobs. Working conditions are pleasant in modern plants; the manufacturers offer fringe benefits (health insurance, paid holidays and vacations, etc.); and many of them sponsor recreational, social and athletic activities for employees and their families.

Here, for example, is only a fractional list of the work opportunities in the textile industry, U.S.A.

Purchasing agents
Computer programmers
Engineers
Typists
Carpenters
Sales and marketing people
Weavers
Chemists
Mechanics
Fabric designers
Public relations people
Accountants
Secretaries
Dyeing supervisors
Nurses
Colorists
Safety engineers
Personnel people
Lawyers
Scientists
Transportation specialists
Knitting Machine technicians
Electricians
Loom technicians
Cloth inspectors
Screen printers
Card technicians
Engravers
Researchers
Air Conditioning technicians
Lab analysts
Spinners
Warehousemen
Doffers (bobbin changers)

STARTING THE PROJECT

The scary realization that one day they must participate in the adult working world comes to youngsters at an early age.

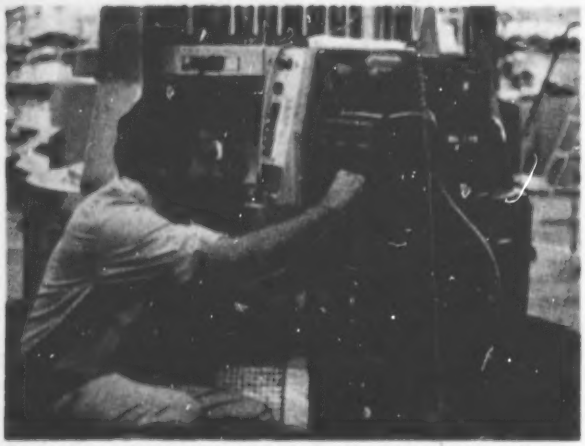
But doing what? The boy who answers, "A man." when asked, "What are you going to be when you grow up?" may sound impertinent, but actually he's confessing he doesn't know *what* he can be.

TO OPEN A DOOR

The children need *you* to open the door to the wide, wide world of satisfying careers and occupations. Otherwise they can see only a small, nebulous realm consisting of the few occupations recognizable in their spheres of life. They have little real concept of the vast field of rewarding pursuits available to them or of what will be required of them, or of their own worth and what they can offer.

Moreover, many of the career opportunities your youngsters will have do not even exist today. In an industry like textiles, which is typical of changing America, the machines your students will operate, many of the products they will make and sell have not even been invented.

The diversity of opportunity in textiles can provide you



Keeping textile machines going requires skilled technicians.

with a unique point of departure, one that will enable youngsters to explore new ways to discover and develop their individual talents and skills.

The overall goal of the project is to help children see the wide world of gainful employment, as well as its ramifications, and to help them begin preparing for it.

WHY NOW?

The learnings involved will contribute to the effectiveness of ensuing grades, and the high school years when students must make course or subject choices, and also take on after-school or summer jobs. There are boomerang benefits for you: the traits and attitudes to be developed for successful, satisfying employment are the very ones that conspire to make a better classroom student today.

Also, the project is designed for easy weaving into your present curriculum. Activities can be used to replace or expand routine exercises in language arts, social studies, the creative arts, etc.

Introduce the project informally, using a normal classroom situation that can relate to the textile industry. For example, note an unusual design in the fabric of a student's shirt. Move naturally from comment on it to comment on the maker of the fabric, and to the people and variety of jobs in the textile industry.

With questions and discussion, you introduce career awareness, and the inherent understandings and learnings that are the objectives of the project. Given here are threshold talking points that give significance to the follow-through activities.

1. **The Nature of Work.** *To clarify the meaning of expressions used in the working world; to view "glamor jobs" realistically; to stress the dignity of any job done well.* What is a "job"? Are there differences between: a job, career, occupation, profession, vocation? Can a hobby or sports activity be a career or job? Is one person's job better than another's? Why not?

2. **Why People Work.** *To understand that work is a rewarding part of life.* Is money a reason people work? Why? What is the money spent for? Is "security" a reason? In what way? (Fringe benefits, such as insurance, etc.; steady income; banking and investments). What are some of the satisfactions and rewards of working?

3. **How People Work.** *To see that physical and mental ability can't be divorced in any occupation; to learn respect for, and see the importance and often advantages, of "little jobs" (trades, skill jobs, so-called labor or plain-work jobs) as well as "big jobs"; to become aware of educational facilities (trade, vocational, professional schools; company training courses, etc.) in addition to college.* What parts of the body do you think a knitting machine operator would use? In what way does he "use his brains"? In what jobs are physical abilities and skills important? What are some jobs that need a college education? A textile chemist for example? Do all jobs need a college degree? Where do people learn how to do their jobs? How do people advance in their jobs?

4. **A Look Inside The People Who Work.** *To develop self-esteem; to develop qualities necessary for successful, satisfying employment -- a good aggressiveness; a lively curiosity and imagination; flexibility and self-control, good assertiveness and talkativeness; physical coordination, etc.* How do working people use their imagination? Can you think of a job that requires physical coordination? Discuss self-confidence, flexibility, assertiveness, etc.

5. **How People Prepare To Work.** *To acquire and develop skills related to a job, but not directly part of the work itself.* How do people get jobs? What is a resume? An application blank? For what jobs would you need "working papers"? Discuss laws and agencies governing work. What should a person ask about when applying for a job (pay, advancement potential, fringe benefits)?

6. **Where People Work.** *To see the wide range of available occupations in industry, with the textile industry as the example; to understand what influences job choice (skills, interests, convenience, family persuasions, etc.) and job changes (dissatisfaction, disappointment, better qualified for another job, etc.).* What are some jobs held by people you know? What other kinds of jobs do you think are available here? Can you name some jobs people do in the textile industry? What makes a person choose a particular kind of job? (For example, why does one dye cloth and another operate a knitting machine?) Why does still another work as a scientist? What makes a person change jobs? Have you and your family talked about your future career?

AND NOW TO GET GOING

Activities are broadly grouped according to the curriculum areas in which you can utilize them.

SOCIAL STUDIES

1. Make a class survey of parents' occupations. Ask students to identify them as professions, vocations, etc. Notice how many are directly or indirectly related to textiles as one of man's basic requirements.

2. To emphasize women at work, make a class survey of how many mothers, sisters, aunts and cousins work and what they do.

3. The textile industry employs more women than any other manufacturing industry (45% of the total work force). Ask students to list reasons why this is so.

4. Ask students to make a list of all the jobs they can think of in your area. Have them add to the list by checking the Yellow Pages of the telephone directory and advertisements and classified ads in the newspaper and by researching to discover unusual or "unheard-of" jobs. How

Efficiency of a textile computer installation depends on people.

People who can supervise work of others are much in demand.

many of these occupations could be performed in the textile industry?

5. Are there any jobs in the textile industry that can be performed only by a man? Explain.

6. From the list of job opportunities in the textile industry included earlier, have children find out and describe the kind of work done by a loom technician, spinner, lab analyst, etc.

LANGUAGE ARTS

1. Write to your state's Department of Commerce (or its equivalent) for names and addresses of textile manufacturers in the state. Ask the class to select one student to write to the companies for information about jobs available for both men and women, education or training requirements, advancement potential, fringe benefits.

2. To help develop self-awareness and self-esteem, have student write an autobiography telling who he is: about his family; where he lives; his skills, abilities, interests (hobbies, sports, etc); likes and dislikes; drawbacks; advantages of "being me"; what he feels he could contribute to a job.

3. Have student determine what job he might fit into in the textile industry, on the basis of present capabilities; what jobs in other fields.

4. Have students write a resume for a prospective employer.

5. Have them write a sample letter of application for a job in the textile industry, and one in answer to a help-wanted ad.

6. Obtain and have copies made of a job-application form from an employment agency. Have students fill it out.

7. With one child writing for the class, in each case, invite speakers: (a) a textile company representative to talk about the industry and occupations in it; (b) a home economics teacher to talk about jobs related to fabrics, i.e., sewing, selling, teaching; (c) parents and others in unusual jobs to tell how they first became interested in their work, what influenced their choice of work, education and training necessary for it; their satisfactions, rewards; (d) high school or college students to talk about summer and after-school jobs.

CREATIVE ARTS

1. Have students write and act skits of (a) a job interview situation in the textile industry; (b) an employee telling his employer he wants to change jobs.

2. Ask students to design fabrics (or draw designs for fabrics) for a sport shirt, kitchen curtains, a dress.

3. Have students develop a TV quiz show (such as "What's My Line?") on various occupations in the textile industry.

4. Make a mural of places where people work in the community.

5. Make a bulletin board display of pictures of people at work in the textile industry; in other fields. *Use literature available to teachers from the American Textile Manufacturers Institute.*

6. Make a bulletin board display of magazine and newspaper cut-outs showing the tremendous variety of textiles used in our daily lives (clothing, sports, furnishings). Tack on literature about the textile industry for children's reading.

7. Have students compile a Work Directory, listing occupations by category of primary requirement (such as knowledge of math, science, etc.; physical dexterity; skills; creative writing or artwork ability; leadership and management ability, etc.).

8. Have children organize a textile sales office. Appoint a sales manager, fabric designer, advertising manager, publicity director, several salesmen. Have other youngsters represent buyers for customers such as clothing manufacturers, auto manufacturers (for carpet, upholstery); furniture manufacturers, retail stores (for piece goods). Develop a company name and make a sign for the door. Design advertisements. Write sales letters; news

Textiles offer careers for welders, electricians and other trades.

releases about a new line of fabrics. Assemble swatches of different fabrics for salesmen's sample kits (use samples of cloth from home). Re-enact sales interviews with customers.

RESEARCH

1. Guide students in researching where to get information on laws governing work—working papers, social security, etc.

2. Set up a Career Learning Center on a table in the corner of the classroom. Start it with literature available from American Textile Manufacturers Institute.

FIELD TRIPS

Help students organize and make arrangements for all-class, group, or individual trips to places of work—a retail department store, a hospital or convalescent home, a craftsman's shop, etc. Notice how textiles are used in various occupations.

NOTE TO TEACHERS:

For a complete list of educational materials available from the American Textile Manufacturers Institute, or for an additional copy of this resource unit, write to American Textile Manufacturers Institute, 1501 Johnston Bldg., Charlotte, N.C. 28281.

American Textile Manufacturers Institute
Education Department,
1501 Johnston Bldg., Charlotte, N.C. 28281

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THE TEXTILE PROCESS

Making Yarn

The process at the textile plant begins with the arrival of the natural or man-made fibers. They are fluffed and cleaned, then formed at a *carding machine* into long, rope-like strands called sliver (sly-ver). These pass through the *drawing frame*, which has a system of rollers that draw out the slivers and make them parallel. The drawing frame also merges as many as eight slivers into one strand about the width of a thick rope.

Later in the process the sliver goes through the *roving frame*, where rollers reduce it to thread size. From there the *roving* passes through the rollers of a *spinning frame*, where the strands are twisted from 10 to 30 times per inch to form a strong yarn, which is then wound onto conical structures about a foot long called bobbins.

At various steps along the way to making yarn, two or more fibers may be blended; for instance, cotton and polyester.

Making the Fabric

The ways in which yarn can be transformed into cloth are almost endless. Weaving, of course, is the oldest and best-known process. But yarn can be knitted in several different ways—warp, raschel, tricot, or double-knit. It can be used in tufting carpets. It can be bonded together chemically or mechanically in a nonwoven textile.

Knits and tufted carpets are two fast-growing segments of the industry. Tufted carpets have virtually replaced woven carpets in the American market and knits, which used to show up most commonly in items like T-shirts, sweaters, and socks, are now, thanks to new fibers and processes, taking over an increasing share of the market for men's and women's suits and slacks.

If the yarn is to be woven it eventually arrives at the weave room, some of it wound on huge rolls called beams, some on small bobbins. As the yarn from the beam passes lengthwise through the loom, the shuttle carrying the bobbin darts back and forth crosswise, passing under some strands from the beam and over others. (The lengthwise thread is called *warp*, the crosswise, *fill*.) Thus the yarn is woven into fabric, called gray cloth at this point.

For special purposes there are special looms—for instance, the *box loom*, which weaves plaids with different colored yarns. And for more intricate designs, such as a name on a towel, there is the *jacquard loom*, which operates by perforated cardboards on the principle of the old player piano.

Finishing

Some fabric—such as that to be employed in bagging—is ready for use as it leaves the loom. But most of it must be finished in various ways. It is often bleached and dyed, then Sanforized to prevent further shrinking. Sometimes packages of yarn are dyed in vats before the yarn is made into fabric. Or the gray cloth from the loom may be dyed a solid color by passing through a *continuous dyeing range*.

When the end use (table cloths, blouses, etc.) calls for a design rather than a solid color, the fabric is printed on one side only. The most common way of doing this is by *roller printing*. Engraved copper rolls, similar to those used for paper printing, pick up the colors and transfer them to the fabric. In *screen printing* the cloth passes beneath a row of metal screens, each of which is coated with a resinous substance to block out part of the design. The dye is pressed through the parts of the screen not filled in to print the proper design on the cloth. As many as seven colors can be printed to make one design.

Once the cloth has been woven or knitted and has passed through the various finishing processes, the textile plant is through with it. The cloth then goes to the makers of apparel, sheets, parachutes, etc.

TEXTILE DECORATION

The various careers involved in the production and decoration of textiles prove to be an interesting study. From the primitive braiding and weaving techniques of early man to the huge machines used in textile printing is indeed a gigantic step. The diverse opportunities in the textile arts would appeal to many children.

Fabric Manufacture:

Processing the raw product: wool, cotton, linen, synthetics
Chemical studies of fabric and dyes

Fabric Design:

Planning colors and textures for mass production

Commercial Textile Decoration:

Maintenance and operation
Warping a loom for stripes, plaids, etc.

Commercial Textile Decoration:

Designing for mass production
Printing presses
Hand screening
Embroidery
Applique
Patchwork
Quilting
Sewing of laces, trims, beads

Pattern Design:

Designing
Drafting
Pattern printing and packaging
Merchandising

Clothing Manufacture:

Purchasing
Supervision of sewing
Cutting of fabric
Machine sewing
Warehousing
Distribution

Fashion Design:

Art Work
Model production

Interior Decoration:

Curtain and drapery design
Upholstery design
Rug design
Total room coordination

Textile as fine art:

Linoleum block printing
Batik
Silk screen
Tie Dyeing
Crewel work
Applique
Banners
Hand weaving
Tapestry

Developmental Objectives

Grades Kindergarten through Two

Individual and Environment

1. To develop an awareness that people work in the textile industry.
2. To develop an awareness that the textile industry provides a means for man to use his creativity.
3. To develop an awareness of the variety of work in the textile industry.
4. To develop an awareness of the importance of working together among workers in the textile industry.

World of Work

1. To develop an awareness of the importance of all jobs in the textile industry.
2. To develop an awareness of the interdependence of jobs in the textile industry.
3. To develop an awareness of the relationship between school and work in the textile industry.

Self

1. To become aware of one's work achievements in the textile industry.
2. To become aware of one's work aptitudes for work in textiles.
3. To become aware of one's interest toward work in textiles.

Grades Three and Four

Individual and Environment

1. To develop an appreciation for work in the textile industry.
2. To develop an awareness of the importance of working together to accomplish more than an individual could accomplish alone.
3. To appreciate the role of textile industry workers as contributing goods to people.

World of Work

1. To develop an awareness of the variety of work in the textile industry.
2. To develop an awareness of the relationship between school and work in the textile industry.
3. To develop an awareness that technological changes bring about work changes.

Self

1. To develop an awareness of one's interests toward work in the textile industry.
2. To develop an awareness of one's aptitude for work in the textile industry.
3. To develop knowledge of one's achievements in working with textiles.

Grades Five and Six

Individual and Environment

1. To develop an appreciation of the interaction and interdepence among workers in the textile industry.
2. To develop an appreciation of the individual differences in work.
3. To develop an appreciation of the textile workers and their contributions to society.
4. To develop an appreciation of the work in the peer group.

World of Work

1. To develop an appreciation of workers in the textile industry.
2. To develop an awareness of the different jobs in which an individual's talents can be utilized in the textile industry.
3. To develop an awareness of work in the textile industry.

Self

1. To acquire knowledge of one's interest toward work in the textile industry.
2. To affirm one's own interests through meaniful work with textiles.
3. To acquire knowledge of one's abilities in relation to work done in the textile industry.

RESOURCES AVAILABLE IN THE CAREER MEDIA CENTER

Booklets, Pamphlets and Other Printed Material

(order "Textile Industry Packet")

"There's a career for you ..... in Textiles"
"There's a career for you ..... in Textile Manufacturing"
"There's a career for you ..... in Textile Environmental Sciences"
"There's a career for you ..... in Textile Marketing and Merchandising"
"There's a career for you ..... in Textile Administration"
"There's a career for you ..... in Textile Research and Development"
"There's a career for you in ..... Textile International Business"
"There's a career for you in ..... Textiles"
"Textiles - Our First Great Industry"
"Career Awareness Through Textiles"
"Mankind's Magic Carpet"
"Textile Glossary Wall Chart"
"Swatch Chart"
"Profile of Textiles"
"In Textiles a Career With Every Job"
"How Textiles are Made"

Multi-Media Materials

Grades K - 2

FS	3	How We Get Our Clothing
MM	9	How Things Are Made: "Making Clothing"
MM	99	Lollipop Dragon: "Working Together" (Also MM 134)
F	204	Clothing

Grades 3 - 4

MM	9	How We Get Our Clothing
MM	118	Economics in the Home, School, Community: "Interdependence"
MM	119	Economics in the Home, School, Community: "Division of Labor"
F	204	Clothing
MM	337	Textiles - A Good Place to Grow
MM	338	Textile Art From Tapestries to Jeans

Grades 5 - 6

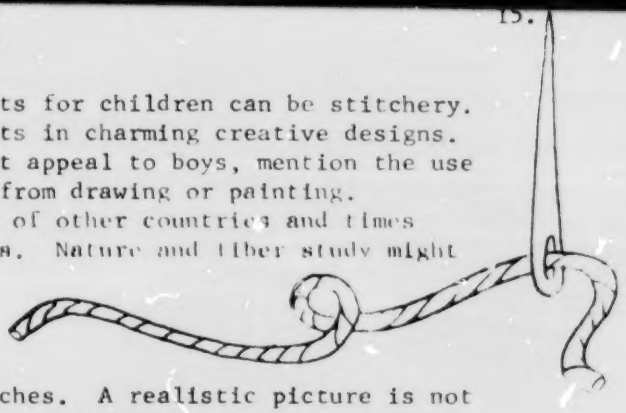
MM	9	How Things Are Made: "Making Clothing"
MM	118	Economics in the Home, School, and Community: "Interdependence"
MM	119	Economics in the Home, School, and Community: "Division of Labor"
MM	120	Economics in the Home, School, and Community: "Supply and Demand"
MM	159	Consumer Education Part II: "Clothing"
MM		Textiles - A Good Place To Grow
MM		Textile Art From Tapestries to Jeans

Books-Available in Each School

Encylopedia of Careers Volume I "The Textile Industry" (page 681 - 692)

STITCHERY

One of the most beautiful and satisfying crafts for children can be stitchery. The interpretation of an idea in fibers results in charming creative designs. Rather than introducing sewing which would not appeal to boys, mention the use of stitchery as a way of designing different from drawing or painting. References to stitchery may come from reading of other countries and times such as Colonial, Indian and European examples. Nature and fiber study might spur interest.



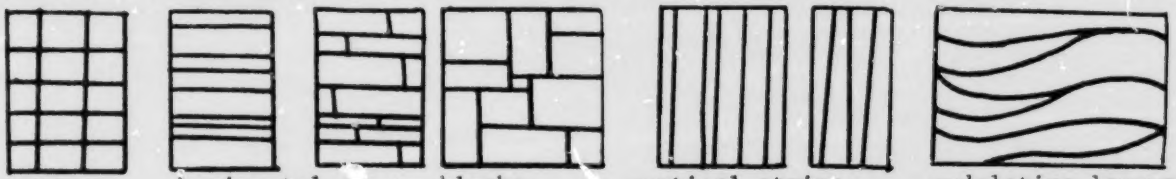
Introduction

It is important to realize the nature of stitches. A realistic picture is not the object. The nature of yarn and needlework will dictate a design quality unlike photographic representation. Before designing a panel introduce a few stitches and practice them on paper towelling, krinkle kraft or checked material. The knowledge of the possibilities of yarn will then help the plan for stitchery.

Materials

Background may be burlap (the finer the weave the better)
linen or other firm fabric
wool (laminated is very firm)
felt or upholstery fabric
Too fine a weave or a tight double knit is difficult

To prevent fraying machine stitch edges or apply a line of glue to back of pieces at edges.
Pieces may be sewn together for a multiple color background.
Use machine stitching and press seams open before beginning.

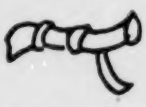


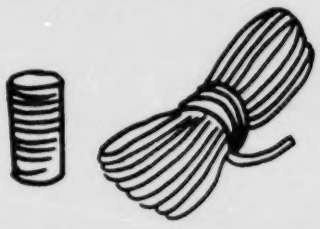
squares | horizontal strips | blocks | vertical strips | undulating layers

Shaped Burlap
Sew a machine stitch along a crayon line. After the piece is finished pull the horizontal thread to the stitching. Clip the thread with small scissors and with a needle work the thread into the fabric. Be careful to keep all vertical threads uncut.

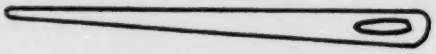
Netting Pieces of net or tulle may be planned over the background for modulating color. Use a large piece, strips or small patches held in place with stitches.

Yarns and Applied Materials:
4 ply woolen or synthetic yarns
3 ply sport yarns
rug yarn for couching
embroidery floss
metallic yarns
raffia
pearl cotton





Needles: Crewel or embroidery for fine yarns
Tapestry or darning for heavier yarns



16.

After practice with a few stitches decide whether the piece will be done in free stitching wihtout preliminary drawing or will be worked over a crayoned design. If a more realistic idea is used it should be stylized and simplified. A paper drawing sometimes helps. This paper could be measured to the fabric. Some designs must be revised to fit the nature of stitchery. Children often draw too near the edge of fabric or work with designs that are too small.

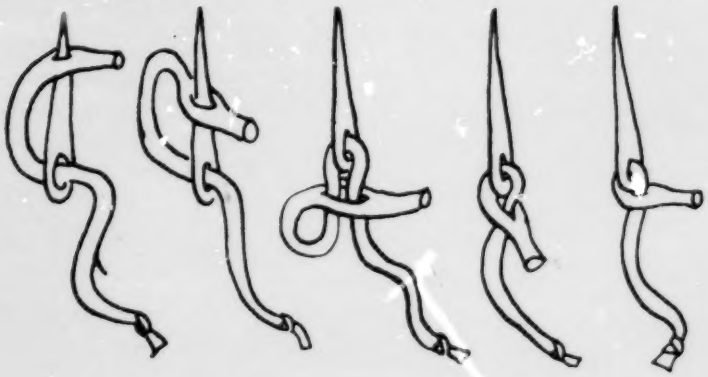
Working

Usually the best procedure is to teach the running stitch or split stitch for outlining the basic form. Draw the stitch on the board and illustrate it in yarn. If a few children are taught this previously, they can assist others. After most children have this accomplished introduce more complicated stitches. Children who know these can help teach them. Individual help is needed in these processes. Primary children can do running, filled and possibly chain, but few more than this. Intermediate children may progress to additional stitches. Try to work for small areas well done and patiently stitched rather than larger panels hurriedly finished. To complete pieces spray-starch the back and iron. Badly buckled pieces will need a wet cloth and pressing.

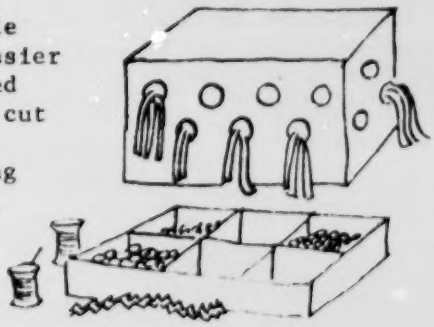
Threading Yarn

For stiff yarn cut at an angle. With soft yarn fold yarn over needle and pinch tightly. Slip the fold through the needle.

To make a slip knot so that younger children will not lose the yarn pierce it about one inch from short end. Pull through and slip the yarn over the needle. The knot will be flat enough to pull through fabric.



Knot the long end so it will not pull through. Double yarn is rather unmanageable and a single strand is easier to pull out if there are mistakes. To knot a finished strand on the back split the end ant tie. Keep yarn cut in 18-inch lengths separated by colors in a box with punched holes. This makes color selection and drawing out easy. Keep labelled boxes for sequins and beads, pieces of roving, raffia, felt, rick-rack, braid.



Cautions

Keep knots on underside of fabric.

Do not work too near edge of fabric as ravelling may occur. Keep two finger spaces away.

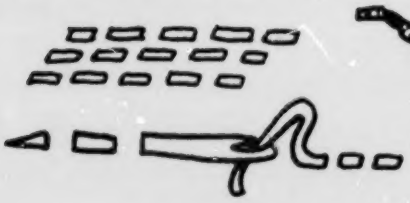
Too long stitches do not stay in place.

Too tight stitching will cause fabric bunching.

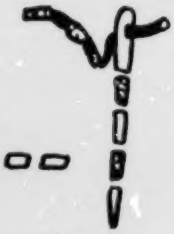
Avoid looping yarn around edge when coming up for new stitch.

Stitches

Outline Stitches



running

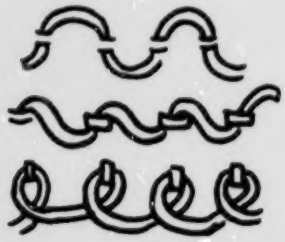


filled

back stitch
Run the needle back a double length from C to A and return needle to B.

split stitch
Yarn comes out at A and needle pierces fabric at C, comes up at B piercing yarn in its center.

Area Stitches



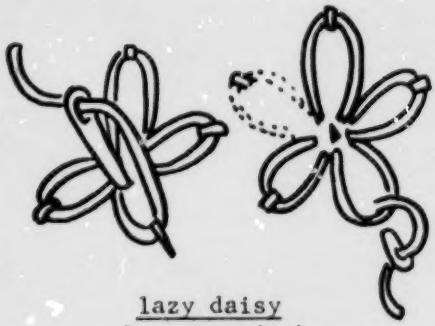
variations on running

slant
Keep needle upright.

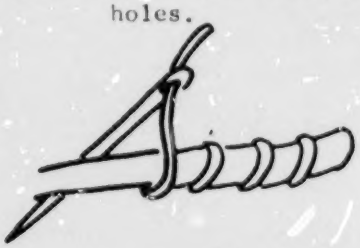
blanket
Keep loop under needle to catch.

cross
Repeat slant in other direction using same holes.

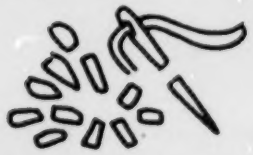
chain
Make a loop holding thread down with thumb. Insert needle and bring out over the loop.



lazy daisy
Loop a stitch over each end and return to middle.



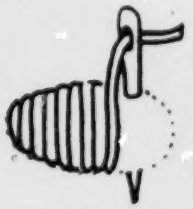
couching
Attach another thread with a slant stitch.



random seed stitch

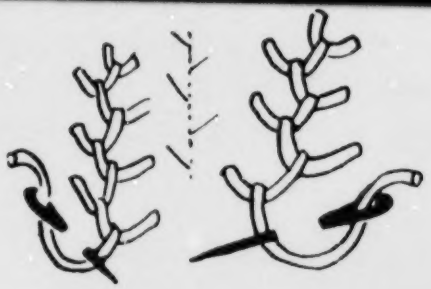
square chain
Holding yarn with thumb make a diagonal slant with needle to emerge at A. Insert at B by pulling the thread to form a square.

blanket repeated in rows



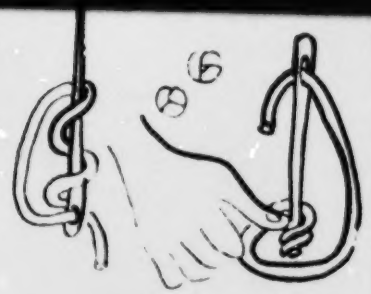
satin stitch
Make close stitches by carrying line under fabric

outline stitch



feather stitch

Bring needle up to on side of line to be covered. Hold thread down with thumb. Make a slanting stitch to right and a little below. Draw needle through over thread. Carry thread to left side of line and reverse directions. Work sides alternately.



French knot

Bring needle up where knot is to be made. Wind thread three times around point of needle. Insert in fabric as close as possible to spot where thread emerges. Pull through to wrong side.

herring bone

Catch fabric at top and bottom. Needle is slanted in opposite direction to progress of row.

Stitchery Projects

Make a fringed burlap pocket for an apron. Face the stitchery with a lining fabric.

Stitch a design on burlap and face it with fabric. Make an inner pillow to fit into this case. Insert the inner pillow which can be stuffed with foam into the case and slip-stitch the top. Add fringe or tassels.

Wrap measured burlap strip around a can for a pencil holder.

Measure a square base for a purse. Cut a long strip a little over four times the length of the base. Stitch designs as a border. Sew up side and attach to the base. Hem and line. Make two drawstring loops for the top.

Sew and line a purse with self-handle.

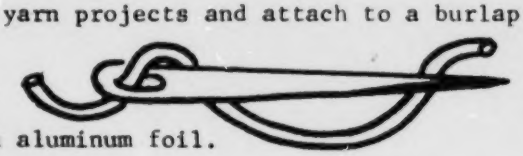
Bond the stitchery to cardboard by overlapping edges and set in a frame.

Let each child stitch a long strip or square in a simple design. Set these together with machine stitching for a class panel.

Let each person contribute to a large burlap panel after basic plan has been sketched.

Stitch separate felt and yarn projects and attach to a burlap backing.

Display

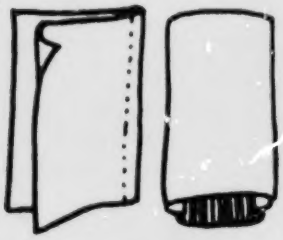


Pin the pieces to a clothes line cut-out.
Make a large cardboard needle and cover it with aluminum foil.
Thread it with roving arranged like yarn.
Run crayon marks around letters.
Mount pieces in boxes.
Glue a cardboard piece to back for hanging.

STITCHERY

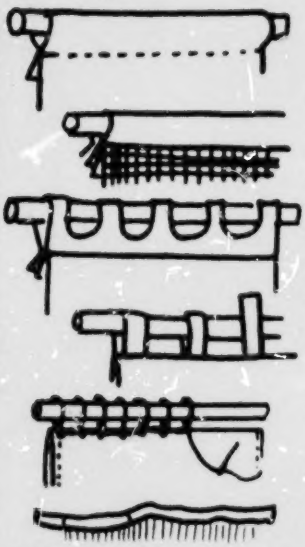
FINISHING STITCHERY

Spray starch and iron the finished work as it progresses. Sometimes a damp cloth on the back will iron out bulges. Leave the work on a flat surface until it is completely dry. Stubbornly uneven pieces should be stretched or framed. Iron-on backing is often helpful for stiffening.



Measure a piece of satin or taffeta about one inch narrower than the work and just as long. Machine stitch face to face along one side. Pull the lining to the other side and stitch. Reverse the tube. The panel will roll slightly around to the back as the lining is smaller than the facing fabric. Press the back. Hem the lining at the bottom so that it is slightly higher than the panel. Often the lining will appear to dip in the center due to the drawing up of the panel.

Headings:



Sew the top of the panel over a painted dowel rod slightly longer than the panel width. Acrylic paints make a fine finish. A color in the panel can be matched in the rod.

Sew a tubing of felt or firm fabric to the panel top. It can be precut in a design of scallops, etc.

Sew folded strips of felt to the panel face top. Cover with the lining and machine stitch to encase these. When reversed the loops will be on top to hold a rod.

Hem the top of the panel with the lining. Lay the rod against this and make yarn loop and knots along the rod to hold the top of the panel.

Use a bamboo rod or a natural branch.

To make a cord for hanging braid nine or twelve yarn strands. Allow the loose ends to hang after tying to the dowel.

Bottom Edge:

The bottom edge may be turned over a dowel or encased in a tube into which a dowel is placed. Yarn strips wound around a cardboard panel may be clipped and knotted over the rod. They may be knotted in macrame' fashion.

Burlap or loosely woven material may be frayed up to a selected point. These strands can also be knotted like macrame'. Two layers of burlap fringe give a fuller finish.

For a decorative bottom edge pull out several areas of threads. In this drawn work stitch together a number of threads with a pulled thread and needle. Use various patterns of tying.

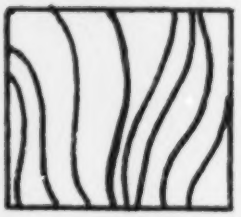
Sew on small ceramic or wooden beads. It is easier to sew them along the edge than to suspend them on cords.

Finished work may be mounted on another fabric with machine or hand stitching.

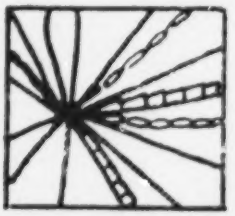
IDEAS for STITCHERY

To augment the learning of stitches a simple sampler may be done with a minimum of designing. A preliminary crayon sketch and subsequent crayon marking on the burlap may be used as a guide but often free stitching directly on the fabric is successful.

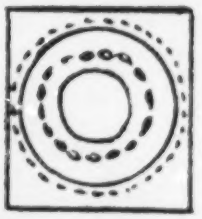
straight lines



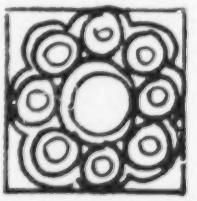
wavy lines



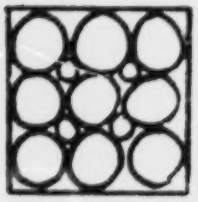
crossed lines



circle

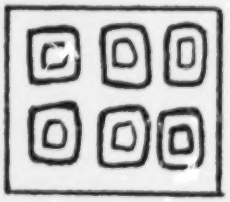


multiple circles

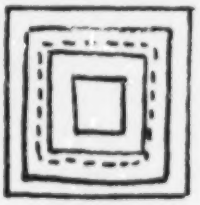


massed circles

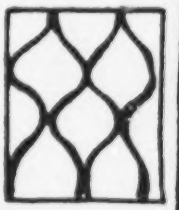
spiral



blocks

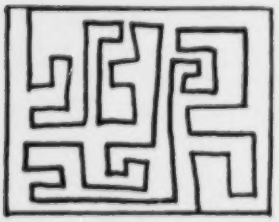


borders

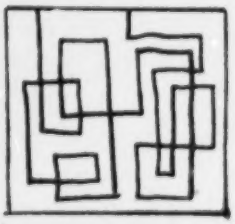


fitted shapes

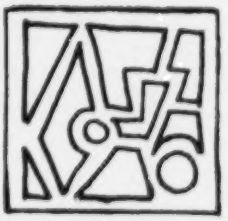
A more ambitious design is best planned first in crayon and then marked on the burlap. It is best interpreted in fewer stitches rather than the many involved in a sampler. These few stitches may be varied by color and weight of yarn. They should be repeated for a harmonious design. The plan must not be too intricate as it would be lost under the width of the stitch.

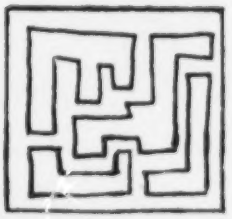


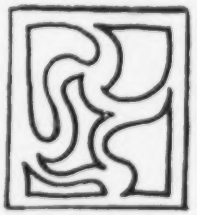
single line



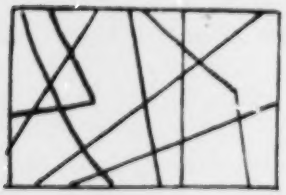
overlapped line



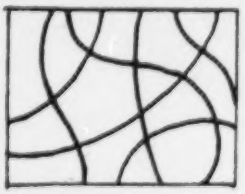


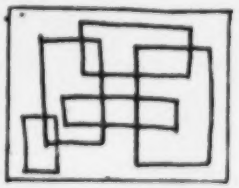


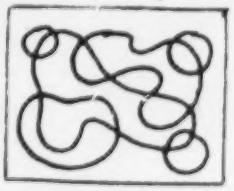
fitted shapes (these could be appliqued)

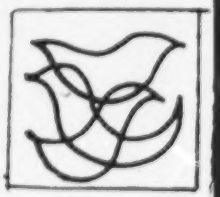


crossed lines

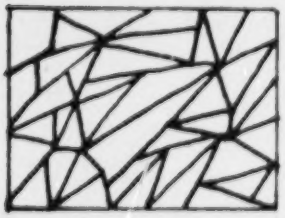


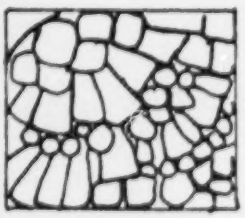




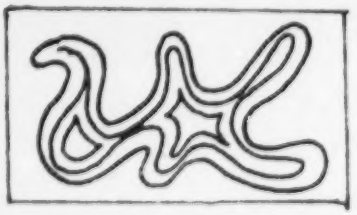


overlapped shapes





overall addition



inlining

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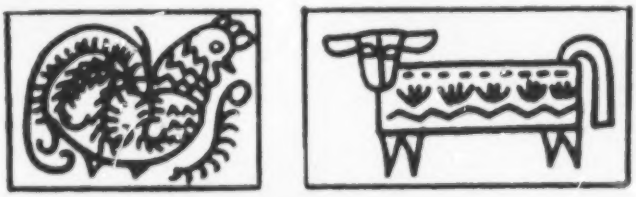
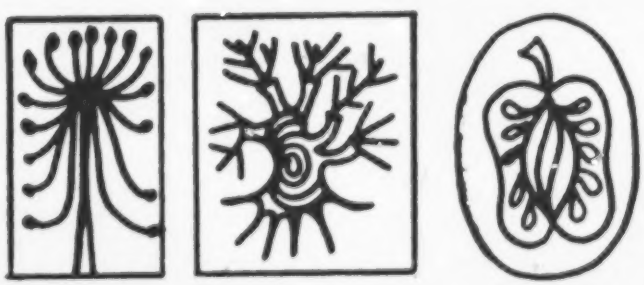
DEPARTMENT
TOLEDO PUBLIC SCHOOLS

DESIGN FOR STITCHERY

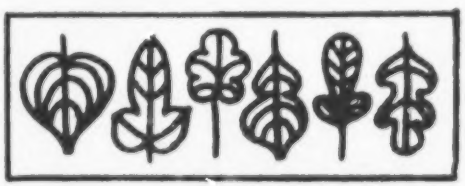
When a natural object is used as subject matter it must be stylized by simplification and flattening. The design should be fitted to the shape of the background material.

If one object is used it should gracefully fill the surface without leaving too much open space which detracts from the richness of the work.

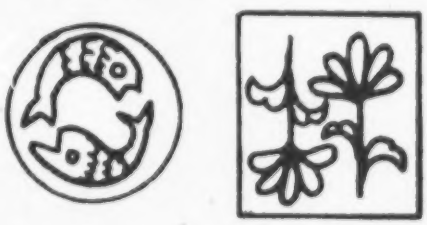




A large cluster of objects should create a massed pattern effect. The placing may be random or organized.

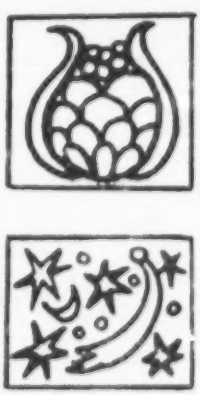


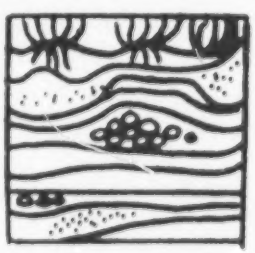
Fit two or more objects together so that the space is well utilized.



Subjects

- Flowers
- Leaves
- Mushrooms
- Seed pods
- Butterflies
- Branch and root forms
- Fish and sea life
- Sun and star forms
- Cross sections
- Fruit
- Earth layers
- Insects
- Birds
- Animals





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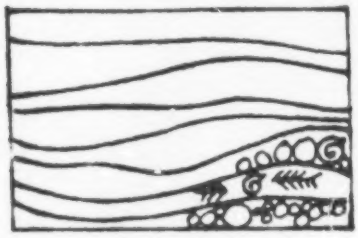
PATTERNED DIVISIONS

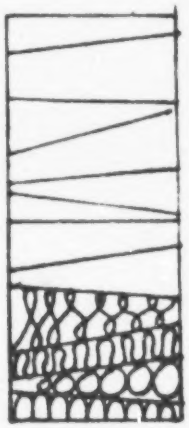
When a class designs a mural, batik panel, linoleum block print or other repeat pattern group project there are many ways to divide the background. Each child then creates within this shape. In some cases the shapes may be cut out of the background paper, distributed to each child for designing and then reassembled. In batik panels light pencil lines may be marked on the large cloth for divisions. In linoleum block printing the pieces can be cut in shapes and after carving be printed in fitted positions on the background.



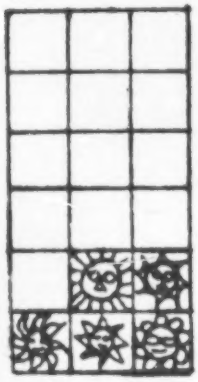
Layers or horizontal strips filled with earth ideas, plant forms, fossils

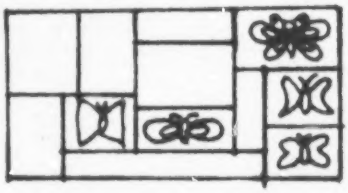
Vertical strips with plant forms

Radiating lines for borders or shapes

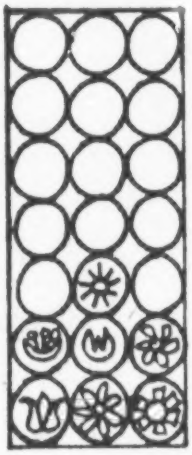


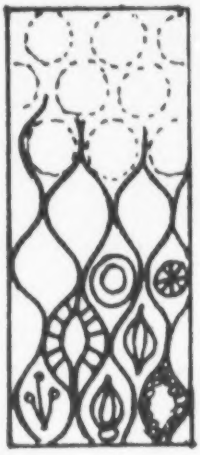
Angular or regular divisions across the panel direction





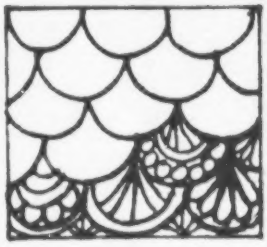
Squares or rectangles for sun faces, flowers, circular designs, leaves, animals, butterflies, birds

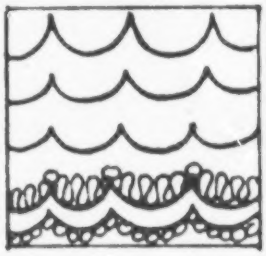




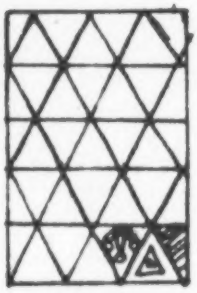
Circles developed into ogee shapes

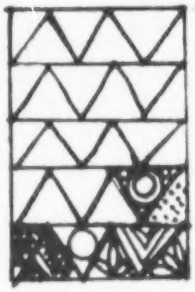
Use for border designs

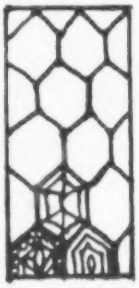




Shell patterns

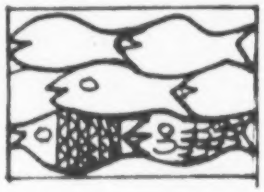


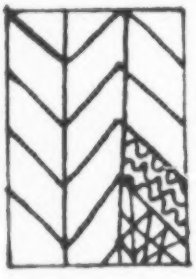




Triangles

Hexagons





Diamonds

Chevrons

Octagons

Fitted natural shapes

BEVERLY & DOMALSKI DEPARTMENT
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Growth Patterns

In painting, drawing, and stitchery the organic approach to design can result in finely evocative and sensitive work. Discussing with children the various ways nature uses to expand may inspire young minds to experiment with patterns of growth. Encouraging exploration of germinal ideas and developing the following possibilities will link the worlds of nature and design.

Vertical growth:

grasses

rigid flowing separated overlapped around shapes

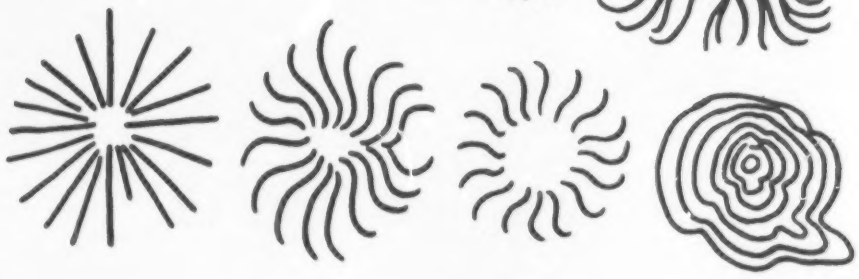
Growth from a stem or center:

plants
trees

with roots

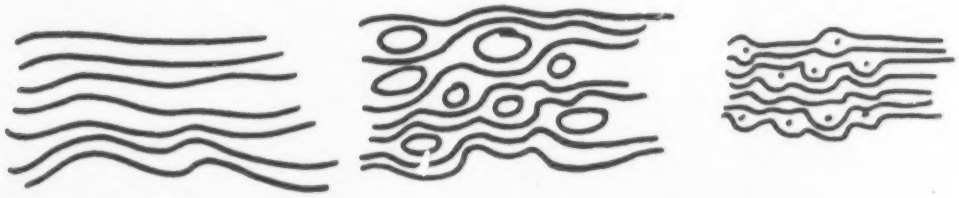
Emanation from a nucleus:

sun
flower
water rings

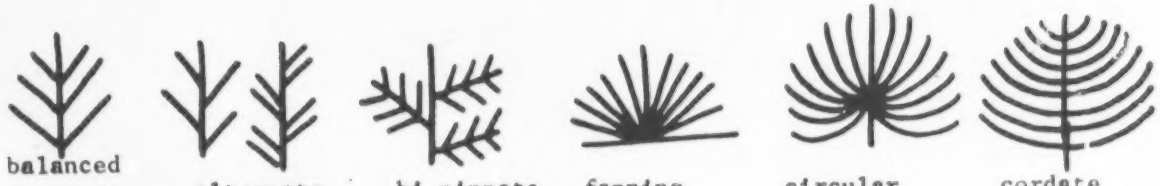


Horizontal layering:

earth
rock strata



Branching:



balanced alternate bi-pinnate fanning circular cordate

joined top and base spiral rings clustering and separating

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COLOR COMBINATIONS

There are many color schemes which by limiting the range emphasize certain emotional appeal. These are very personal choices that people make in selecting and combining colors. The following suggestions should not be restrictive but open new vistas for exploration.

Pastel	The delicacy of lightened colors contributes to ethereal effects. Light cool colors appear wintry, light warm colors suggest spring.
Faded White	Many subtle variations of white from off-white to beige and tan create a rich effect when textural interest is present.
Warm Colors	The whole side of the spectrum from yellow to orange, red, magenta and violet glows with warmth. In a high key they can shimmer as in pinks and peach with touches of chartreuse. In a deeper tone they glow as in a tropical flower bed.
Cool Colors	Blues, greens and olives evoke the sea and fresh breezes. Turquoises with golds and greens are rich with the quality of glinting verdancy.
Dark and Rich	Purples, browns, navy, maroon
Accented Neutrals	Blacks, grays and white with the accent of one color are smart. They are so diverse in tone they are hard to handle.
Citrus	Yellows, golds, yellow-orange, yellow-green, peach.

Natural Combinations

Air	Pale blues, greens and grays with light violet tones have an airy appearance.
Fire	Reds, pinks and oranges burn with flame-like strength.
Earth	Browns of infinite variety, golds, taupe, maroon, all convey the heaviness and solidity of this elemental force.
Water	Greens, turquoise and blues with olives impart a watery caste.

National Color Schemes

Certain combinations although not official with countries have been used by them and are associated as symbols.

Mexican	Magenta, turquoise, orange, green, pink, purple.
Arabic	Red, purple, blue, turquoise
Delft	Blues and white
Nordic	Blues, blue-gray, turquoise, lavender, gold
Southwest Indian	Silver, turquoise, tans, rust, brown
Greek	White, black, terra cotta

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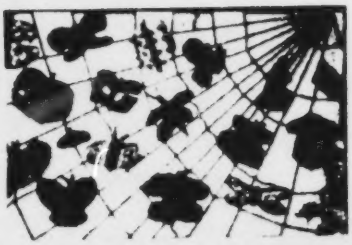
FIBER PROJECTS

Roving



Roving is a heavy rug yarn of soft strands which may be used for outlining on bulletin boards, framing pictures, or pinning cursive letters.

Dip it in starch and lay on wax paper to dry. Make letters or shapes to be filled when stiff with tissue. These lightweight pieces may be suspended.

Use fringed or torn roving pieces as tails and hair by glueing it to the surface of maché figures, dolls or puppets.

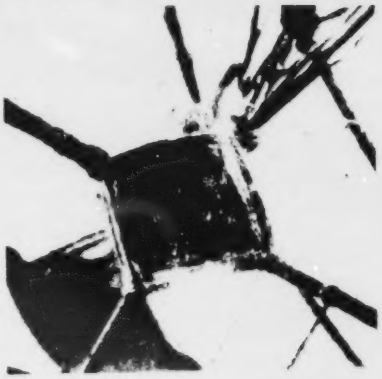
Tack it to burlap in stitchery.

Intersperse pieces in weaving.

Yarn

Sketch a design on cardboard. Glue yarn in a coiled or looped design to fill in areas. Try different textures and weights of yarn. Use a can instead of flat surface.

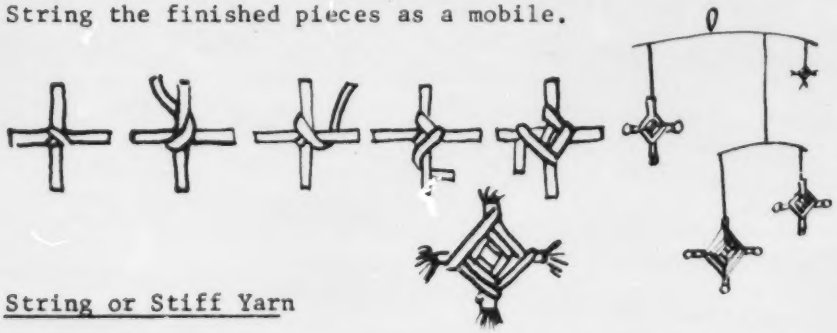
Eye of God (Ojos de Dios)

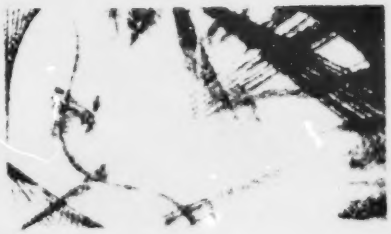


Tie together two sticks or dowels. Wind yarn around each stick in a clockwise motion so that loops are visible on one side only. Glue the end of yarn in place. Finish end if desired, with yarn puffs, beads, etc.

Use a small one with colored paper rolls for a necklace.

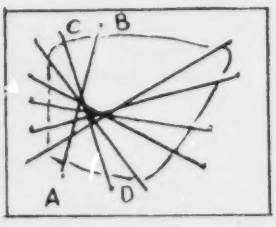
String the finished pieces as a mobile.





String or Stiff Yarn

Cut holes in stiff cardboard. Thread string in a needle. Knot the end. Beginning at A go to B, under to C, crossing the strands up to D. The finished product will have a curved effect as the strings cross. Thread may be used by older children. Intricate crossing patterns may be made.

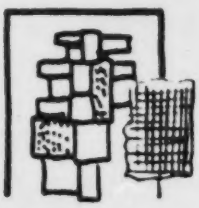


Dip string in heavy starch or plaster, (caution-- read directions on plaster, (p.121). Wrap the wet string around a balloon and allow it to dry. Puncture the balloon for a stiff hollow sphere.

APPLIQUE'

Simple Applique' With pliable glue press down cut pieces of felt on a background of felt or firm fabric. Add stitchery to enhance the shapes.

Collage Applique' Glue down a pattern of unhemmed pieces of wool, felt or other firm fabrics on a background such as burlap or bonded wool. Form an interesting arrangement of light and dark. Shapes may be similar or varied but clustered to create modulated color areas. Sizes should vary to avoid monotony. To avoid fraying pin a sheet of net or tulle over the whole design or use smaller areas or strips in different colors for subtle glaze-like effects. Stitch over this surface with running or seed stitches for textured effects or traditional stitches for clearly defined areas.

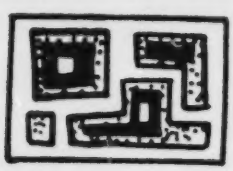


Separated or Hemmed Apply separate cut fabric pieces in a design. For direct stitching without hemming apply a sheet of net to prevent fraying. A simple outline around the shapes may be sufficient or details may be added with other stitches.

For hemmed edges turn under the fabric as a running stitch tacks it down. For pointed edges work to the tip and clip the excess. For rounded edges clip along the curve as the work progresses. Use mercerized thread for fine work, a darning needle and yarn for heavier fabrics. A running, split or blind stitch may be used in varying sizes.

Use cotton or quilt stuffing for padded areas in applique'. Sometimes the entire panel may be worked over a padding base.

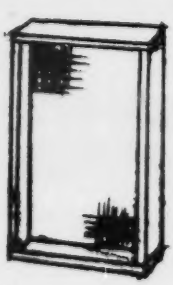
Reverse Applique' (Cut Through)
Stack several closely related fabric colors together with a basting stitch. Cut large simple shapes from the top layer. Turn under the edges with a blind stitch. The stitches may go down through all layers. Cut into the next layer and continue with smaller holes until the bottom layer is reached. Use the cut out pieces as applique' over the cut areas.



Machine Applique' The new sewing machines allow the creative stitches to use machine stitches in multiple rows or in overlapping for rich textural effect.

Stitchery on Batik Batik fabric may be enhanced by stitchery in areas and with padding for a third dimension. Pieces of batik fabric may also be appliqued to other fabrics with simple stitches.

Framing



Build a frame to size with 1" x 1" wood strips. Tack or staple a lining over the wood. With a gun stapler attach the center of each side of the panel. Work toward the corners and miter edges. Over the tacked panel nail down measured lath strips or mitered pieces. A recessed frame may also be used. In that the inner frame must be made to fit the outer frame.

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APPLIQUÉ

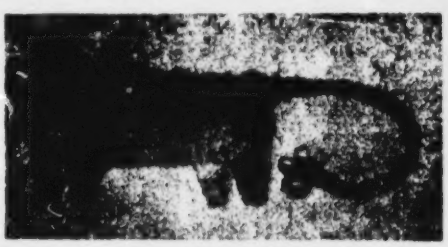
The attaching of one fabric to another may be done in many ways. Felt may be glued to felt if it is to be mounted on a firm surface. If manipulated, it should be sewn. Felt may be glued or sewn to burlap. Since felt is expensive it is good to cut a paper form and pin it to the felt before cutting. In this way the spaces can be conserved. Warn children to place forms at edge of felt, not right in the center which is wasteful.

On a burlap base felt, plain or figured fabric may be lightly glued down and later worked over with stitches. Hemming under edges is only for very patient children. Here yarn stitches may be applied to hold down the fabric and add color.

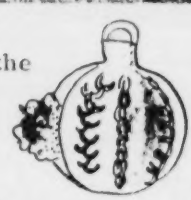
Make:
- belts
- beanies
- comb cases
- pencil holders
- collars
- pin cushions
- stuffed lapel pins
- tree ornaments
- potholders
- bookmark

To stuff a pillow sew a backing to the finished piece. Make a separate stuffed foam pillow to be inserted inside the art project or fill it directly with shredded cloth like nylons. Attach tassels or edge fringe.

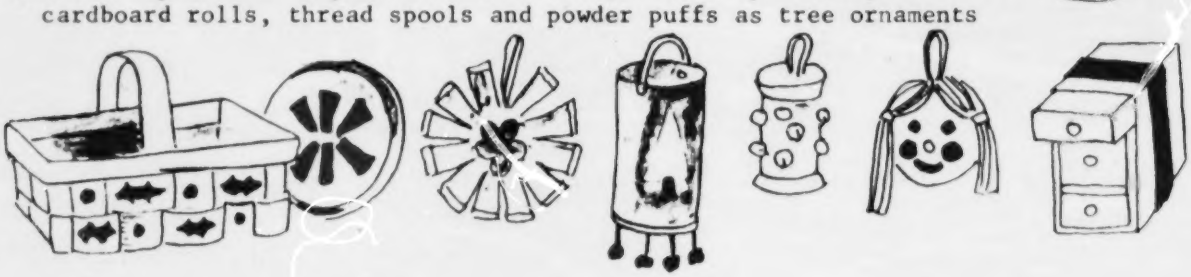
Felt may also be glued to painted juice cans, baskets, hairclips, cardboard shapes, matchboxes. Shapes of felt may be pasted as a picture inside a box lid.



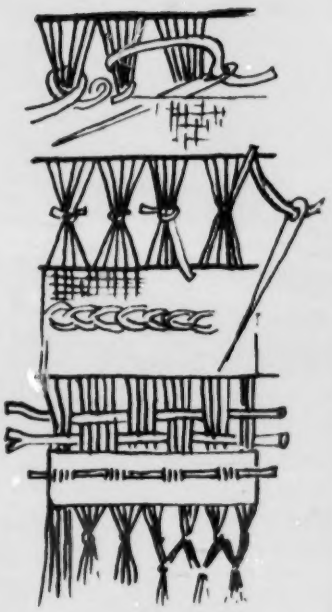
Use two glued layers of felt for a stiffer ornament
To sew sequins to felt use a bead over the sequin to keep the thread in place
To stuff ornaments finish all sewing on the surface.
Use a running stitch, slant stitch or blanket stitch around almost the entire piece. Fill it with shredded foam or soft rags. Coffee or sawdust may be used for a pincushion.



Glue or staple felt to plastic coffee lids, trimmed pie tins, cardboard rolls, thread spools and powder puffs as tree ornaments



Drawn Threads from Burlap



Light and airy hangings may be made by pulling horizontal threads from a burlap panel. Cut a piece to size. Glue a strip of cardboard across the top back or sew on a rod. Fringe the three remaining sides. At irregular intervals pull out the crosswise threads until a pleasing balance of open and closed areas is achieved. The vertical thread may be clustered by using a pulled burlap thread and darning needle. Knot the thread and loop the needle around about six threads, pulling them together. Whip the needle into the bottom burlap to fasten the thread and continue.

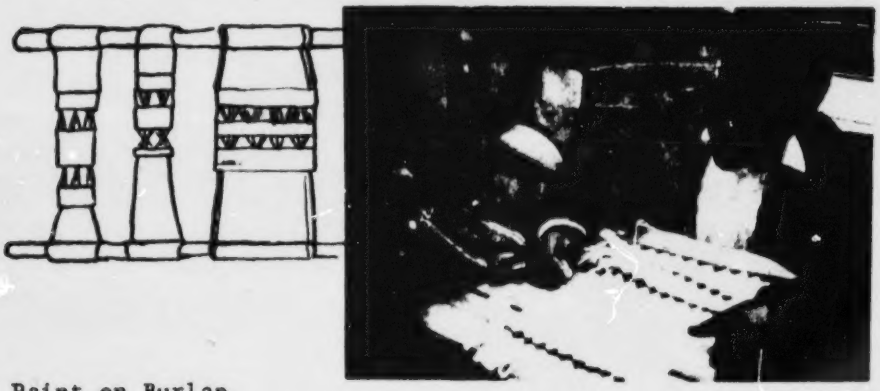
The threads could also be gathered at the top or middle, in which case the gathering thread would be concealed in the cluster.

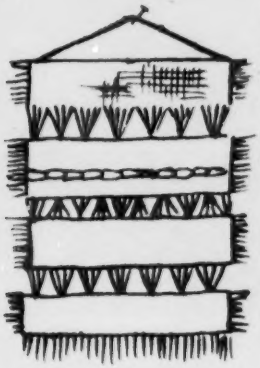
The burlap areas could also be decorated with yarn or raffia stitches.

Twigs could be inserted in the drawn areas by weaving them between the threads.

The hanging bottom threads may be knotted simply or in multiple knots.

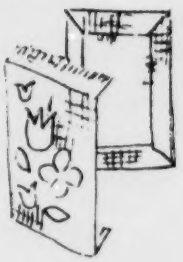
Several such panels could be grouped for a class project with cords running from tops and bottoms.





Paint on Burlap

Although the best use of burlap is in stitchery a careful and thoughtful painting may be done on it. The burlap should be at least 12 inches square. A simple bold design could be sketched with crayon. Thick tempera would be slowly applied with a brush and if absorbed rebrushed. The panel will be quite stiff when dry. It might be mounted to a dowel rod or glued to cardboard backing at top or under whole piece.

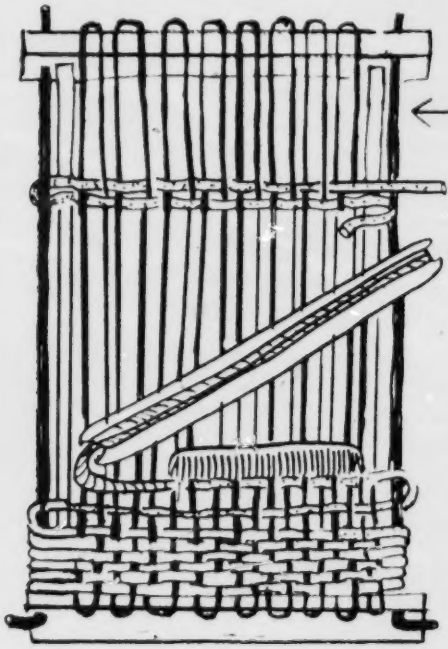


Burlap and Felt Pictures

Glue burlap to cardboard and turn sides under. Be careful to avoid glue seeping through strands. The size could be fitted to a frame. Glue on pieces of felt or other materials.

WEAVING

Weaving is the alternating of crossed threads in various patterns to form a fabric. It is best to introduce weaving with paper strips before attempting work with fibers. After experience with crossing paper strips children will better understand that the alternation of the over-under sequence produces a surface made up of separate threads. Review paper-weaving techniques (p.72). A vocabulary list is helpful in teaching correct terminology.



Loom Firm structure to hold threads for weaving

Warp Threads on the loom that receive cross-wise thread

Weft or woof Threads woven across

Shuttle Stiff board or wood to carry weft over and under warp

Beat Press the weft down with comb fork or fingers

Shot One line of weaving

Selvage Outside edges of weaving which should be straight

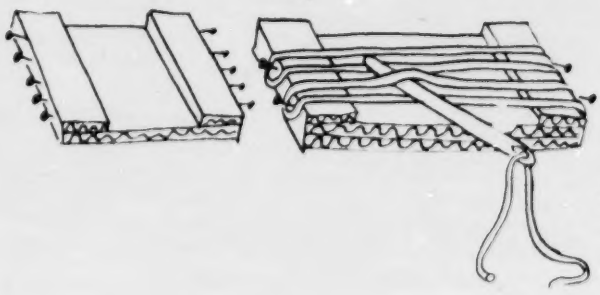
Heddle Wire or thread loops that hold selected threads to be raised

Wire Stay placed at sides to keep edges even. The weft is looped around this to prevent pulling in

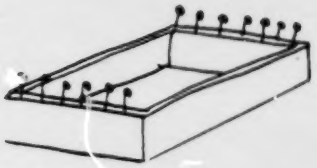
Simple Looms

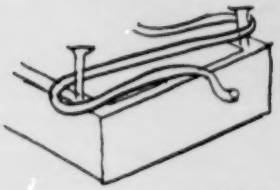
Clip a paper plate with an even number of slits to produce an uneven number of spokes. Use crepe paper strips, roving or yarn to weave over and under in spiral fashion outward until the spokes are filled to the edge. Glue the last piece down. The plate may be kept flat or shaped up to form a bowl.

Notch the top and bottom of a corrugated cardboard piece or insert pins at both ends. Extra strips of cardboard glued to the ends will keep the string away from the base and give more work room. An even firmer loom is made by using two sheets of corrugated cardboard glued together. Tight warping will be less likely to bend this loom.



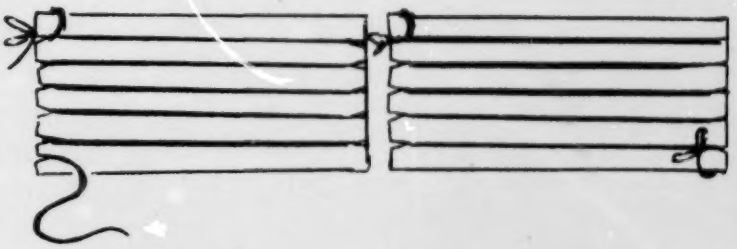
Make a loom by placing nails at the ends of a cigar box.





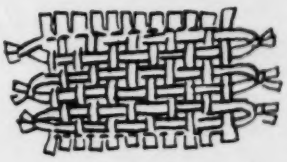
Warping

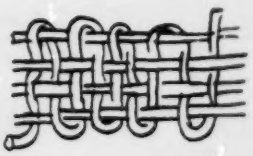
Use a firm string for warping. Yarn is too soft for tight pulling. Tie the string or warp to the top notch or pin and slip this around the bases. Knot the end at the opposite side of the loom after completing the warping. If a string breaks or is not long enough an inconspicuous knot may be made along the way.

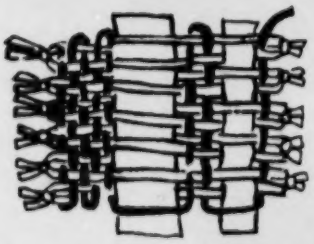


Weaving

Weaving may be done by using short pieces of weft cut a little longer than the width or a longer piece of weft which is used back and forth. The short pieces require machine stitching after completion or they may slip out.



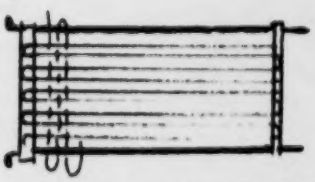




Yarn overlapping a wide strip to continue beyond it and start again

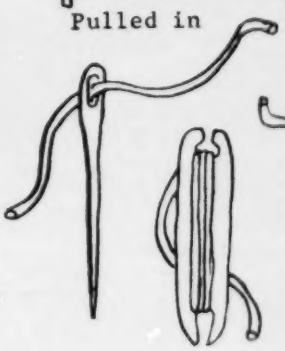
The longer thread often causes pulling in at the center. In this procedure a wire at the sides would help.

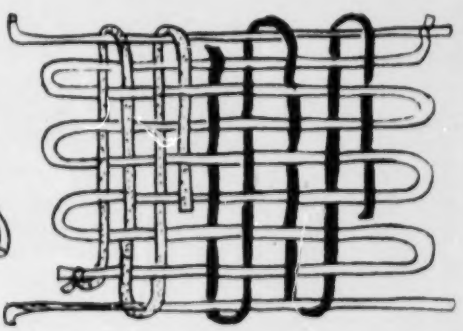
Pulled in



Weft looped around wire

Wrap the yarn around a cardboard or wooden shuttle which both carries the yarn and serves as a larger needle. A large needle could also be used but the thread would then be loose.

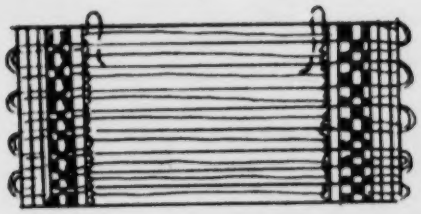




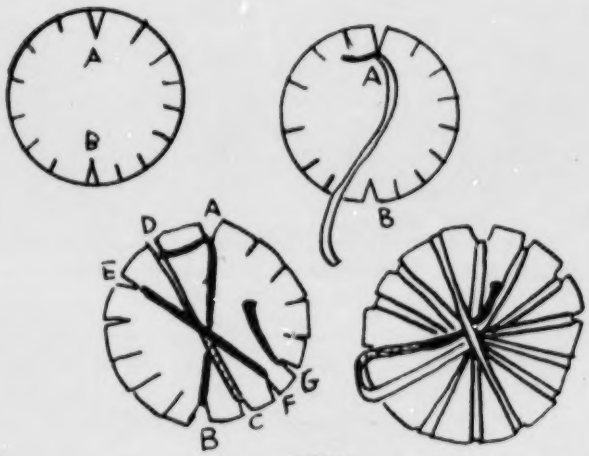
Instead of knotting the weft overlap the beginning and end pieces as though they were one thread. Pressure will cause them to be firm and flat. Use a comb or a fork as a beater.

Special Weaving

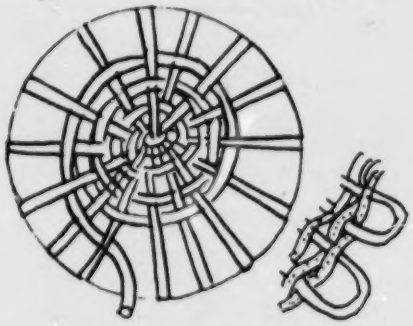
To achieve a balanced design work both ends alternately going toward the center and counting rows first on one end and then duplicating this at the other ends. This helps balance colors and is easier than trying to repeat a design on one side after some colors may be used up.



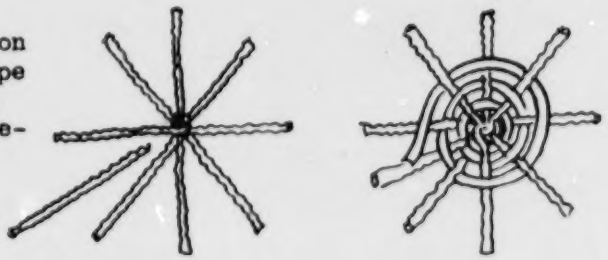
Circular weaving is done on a notched cardboard. Mark two notches opposite each other. Cut an even number of notches on one side, add one notch for an uneven number on the other side. Knot or loop a string at A, carry it over to B, hook under the cardboard and bring it up at C. Carry it across to D, hook at E, carry back to F, and continue until the circle is complete.



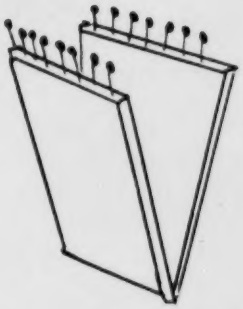
The end thread should be carried to the center slipped under the crossing in the middle and knotted. This forms the loom. Begin at the center with the leftover thread. Work in a spiral going over and under alternately. If there are an uneven number of strings the subsequent rows of weaving will be in the alternating over-under pattern. To remove the weaving slip the end loops off the cardboard.

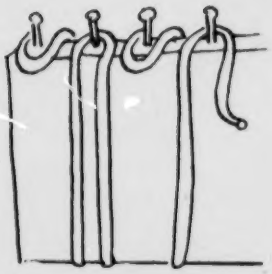


A simpler version is made by crossing pipe cleaners and adding one extra spoke to hold others in place. The weaving is done from the center out on the uneven number of spokes. The pipe cleaners or reed remain in. Size is limited to about 8 inches diameter because of widening outer spaces.

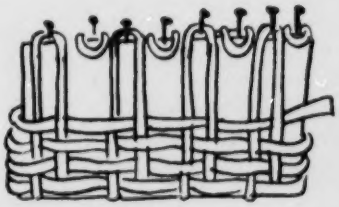


Double weaving produces a pocket effect. Glue two pieces of cardboard together or fold one up. Insert pins at top. Loop around a pin, wrap the string under the cardboard and loop around the next pin. The direction of loops will alternate. Weave the woof around in a spiral motion and knot at the top. Slip out the pins from the loops and remove the cardboard.



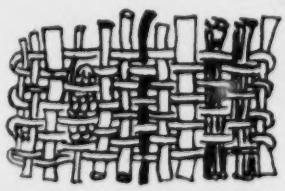


The same type of weaving can be done on a circular box. Begin at one notch and carry the yarn across to the other side, notch and carry back to notch next to the first. Continue around box until end is pulled to center. Weave on flat base, then down the sides. Knot end and slip loops off cardboard notches. A stiffer material like raffia is better for this shape. This is really the same process as circular weaving with the exception of the bend of the cardboard to form a side.

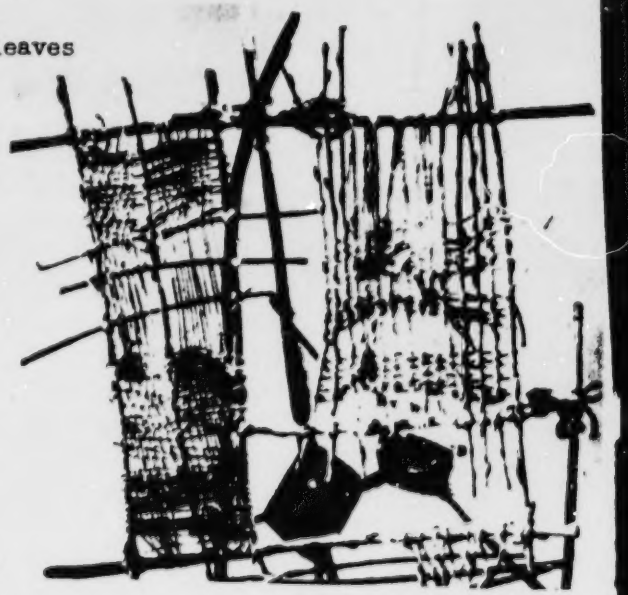


Materials

String or cord for warping
Yarn in different weights, even roving
Raffia, rolled, cornhusks, straw, reed, iris leaves
Metallic threads
Ribbon
Embroidery floss
Twigs and weeds
Pine cones
Crepe paper strips
Strips of felt or cloth
Tissue paper
Plastic straws
Feathers



Natural materials cut to extend beyond the edge

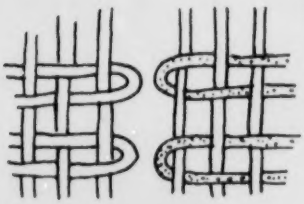


A twig structure may be used as a loom

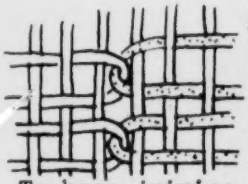
Try to establish a color harmony and textural interest. Children love the bright yarn colors, but should learn to appreciate more subtle coloring in natural objects. It is fun to choose a color and find all its variations for one woven piece. The warp usually has to be firm enough to be pulled tightly. Its ends may be knotted as a finish for the piece.

TAPESTRY WEAVING

After experience in weaving children may wish to try some tapestry techniques. These more complicated methods produce greater variety in pattern on the weaving. Use the loom with thick cardboard glued to each end. This will keep the warp off the base so that fingers may have working room.

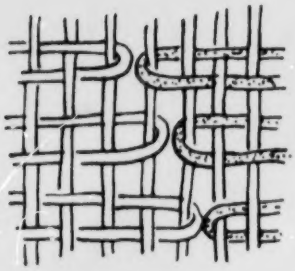


Straight Slit
Weft yarn turns around adjacent warps and returns leaving a slit

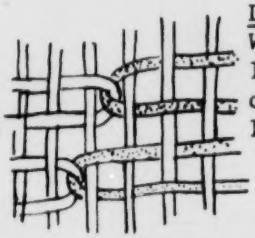


Straight Interlock
Weft yarns meet between two warp, loop around each other and return

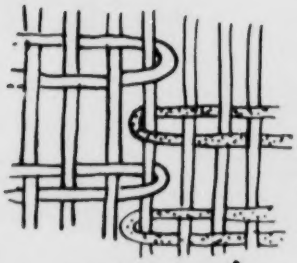
To keep joining line smooth always loop weft around each other in the same direction



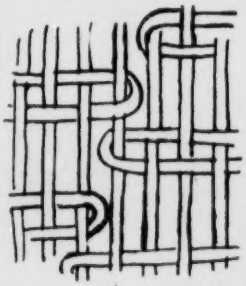
Diagonal Slit
Weft yarn turns around adjacent warps and returns but next row moves over one warp thread at a time. The slits are not noticeable



Diagonal Interlock
Work in a diagonal line by moving over one warp thread to left or right

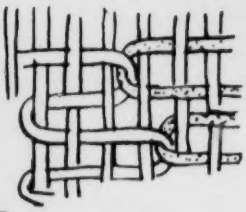


Straight Dovetail
Reverse each weft yarn around a common warp

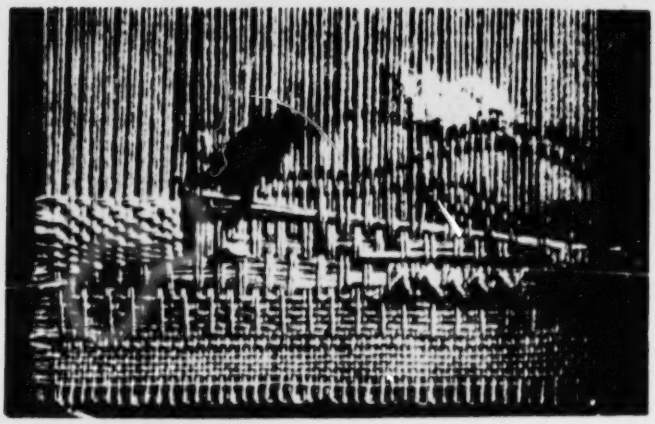


Diagonal Dovetail
Reverse each weft around a common warp but step over on each succeeding row or zig-zag

Limning
Run a weft thread around warp threads left open in the slit. This creates an outline



Hatching
Weft taken part way across, interlocked and returned. Irregular length rows are done for a sketchy look



Oriental Knot
A two inch piece of yarn is placed over two warp threads and ends are pulled through middle

Egyptian Tapestry Knot
Loop weft around warp to resemble needlepoint

Directions submitted by Jacqueline Oberdorf

Mounting Woven or Stitched Pieces

Stitchery or weaving may be fastened to cardboard backing or end threads may be tied to dowel rods. Knotting next to the weaving will prevent weft froom loosening. The bottom end may be left loose or knotted with additions of beads or clay. To display small woven pieces in an assembled form several may be grouped together on a dowel. This example of tapestry woven pieces has ceramic grazed medallions tied on as a finish.

COMMERCIAL LOOMS

Vertical Looms

A simple wooden structure with nails at top and bottom permits large pieces of work to be done upright. Heavy rug yarn could be used for this ambitious endeavor. This type of loom is good for fringed and knotted work.

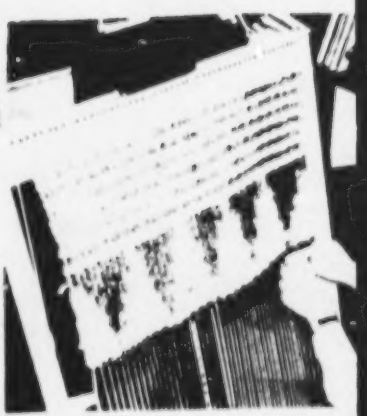
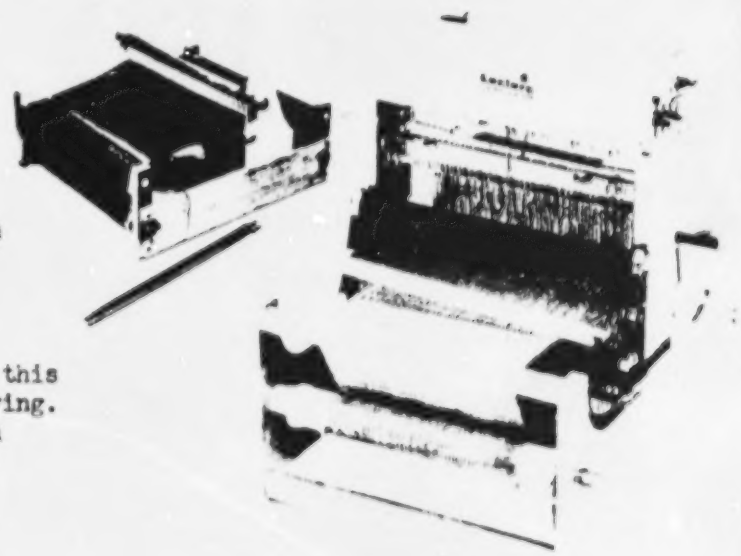


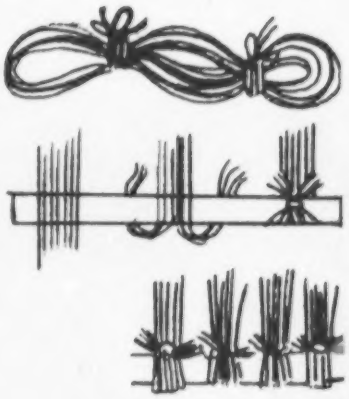
Table Looms

For students with sustained interest in weaving a commercial loom provides more advanced possibilities. The work is raised off the table surface for better accessibility to the threads. There is usually a rolling wood pole at either end so that the warp may be rolled up and caught with a rachet. It is released as needed for weaving. The finished weaving is also rolled up as it is completed. The table loom usually has some heddle form so that sets of threads are raised or lowered. The raising of alternate threads from these between creates a triangular opening called a shed.



In the simplest form of weaving strings 1,3,5,7 are inserted through one heddle (string or wire loops). When the heddle is raised by the side handle these threads are lifted. A shuttle is then passed under with the weft. In some looms this heddle may be lowered under the weaving. In others threads 2,4,6,8 are set in another heddle. This second heddle is raised so the shuttle is thus passed under the alternate threads. In as advanced loom each thread is slipped through several different heddles in different combinations to achieve patterns.

Stringing a Loom

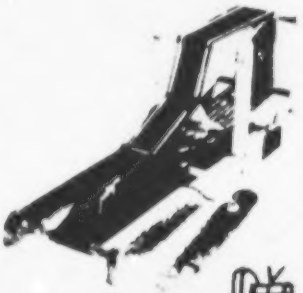


To warp a loom all the threads are cut to the desired length which may be as long as the rollers can accomodate. Sections of the warp are tied in loose knots. A warping board can form them into figure 8 loops. All the strings are kept in the loops as the ends are tied over the end bar. The section goes over the bar, is separated into two parts which are knotted above the bar. All strings are held taut and all warp wound up with paper insertions to keep it flat. The opposite ends are now ready to be inserted in desired patterns through the heddles. Once through they are knotted in the same manner at the other end. Now weaving may begin. Usually cloth strips are inserted before the yarn to separate the warp threads.

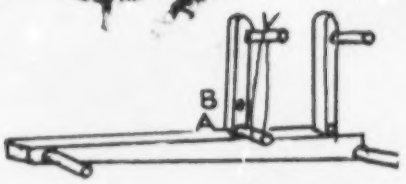
Removing Work from a Loom

When all the warp needed has been used the threads are cut and knotted before the piece is handled. If there is enough warp left for another woven piece the heddles may be threaded again.

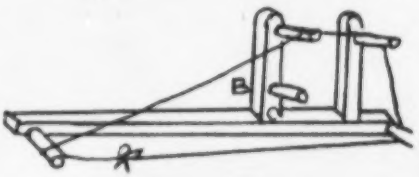
Inkle Loom



This simple structure produces belts which show warp as the design rather than the weft. A continous band of warp is looped around projecting rods. The width of the strip may be up to four inches. A firm string must be used.

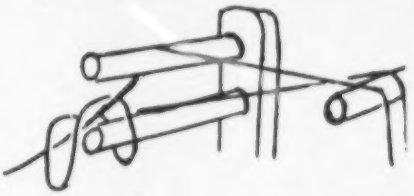


The shed or triangular opening through which the weft is passed is made by pulling down alternate threads caught by string heddles. To make these loops, string around the post moved to A. Make square knots on as many heddles as needed (about 16 for a one inch wide piece).

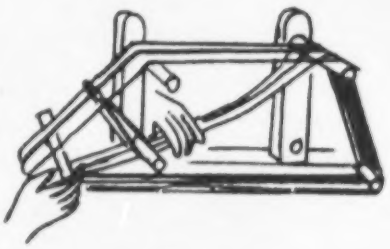


To warp the loom run alternate cords over the top two bars and tie in a loop. Each thread running between these is passed through a heddle and under the first bar but over the second bar.

To place the heddle on just warped cord, pull one end of the heddle down over each side of the cord. This forms a loop over the cord. Place both loops on the post. Continue to warp alternately up and down. Pull both groups of threads gently to equalize tension. The knot's should be aligned at A.



Begin weaving with cardboard strips. Depress the down warp to the lower position opening the shed. Insert the first strip. Change the shed by raising the down warp and pulling down the upper warp that is in the heddles to a lower position. This reverses the shed. Such alternation and subsequent moving of the warp around the loom in a circuit finishes the belts.

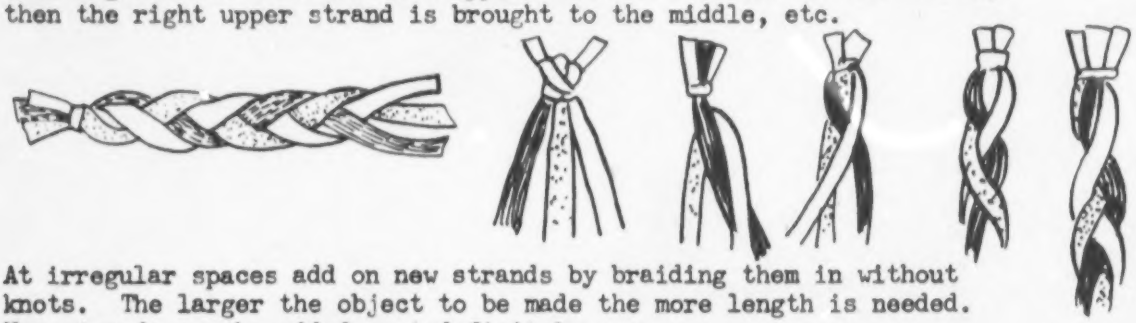


BRAIDING AND COILING WITH RAFFIA

Raffia is a grass-like fiber which is natural tan or dyed in colors. Soak raffia in water at least an hour before using to prevent tearing. It is often used on mache' for tails, hair, etc., but is really a craft material for basket and mats.

Braiding

Tie 6,9,12 strands together. Fasten to an object and pull tightly to form a braid. Keep the braid flat rather than rounded. To teach braiding mention that the left upper strand is shifted to the middle, then the right upper strand is brought to the middle, etc.



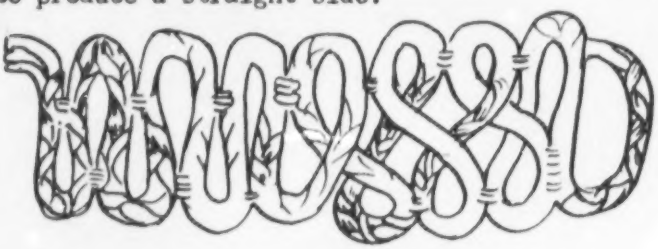
At irregular spaces add on new strands by braiding them in without knots. The larger the object to be made the more length is needed. New strands may be added on indefinitely.

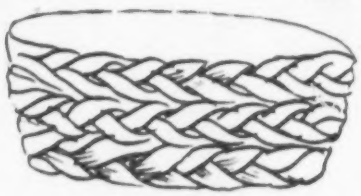
When the braid is made long enough it may be coiled and zig-zag stitched with a narrow piece of wet raffia in a darning needle. The needle is inserted on the back side catching the center, then outer row, inner row, outer row etc. in a zig-zag fashion working outward. The end is fastened down by looping the raffia over the edge, inserting it toward the center for a few rings and clipping it.

The more strands that are used the coarser the braid will be. Several braids may be braided together. Braids may be sewn together in strips. Loops may be made at the ends for buckles. Open loops or intricate designs may be used for belts.

To make open designs on mats the sewing strip of raffia is concealed along or inside the braid before it catches the new strip.

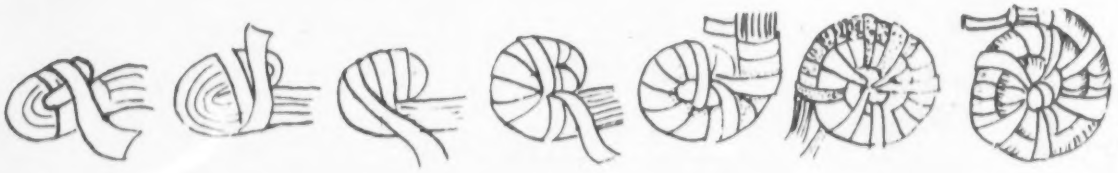
For baskets begin to build up the side after a flat base is made. Braid several strands together for faster work. Usually the stitches are better concealed on the inside of the basket. The curve may be gradual by pulling the braid up only slightly or the piece may be added at right angles to produce a straight side.





Coiling

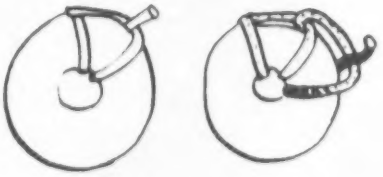
Gather about a dozen raffia strands and loop the end. Flatten a soaked raffia piece and wrap this around the end as tightly as possible. Thread the other end into a needle. Loop the flat raffia around the strands and coil this wet strand around the core until it is firm. After coiling about one inch take the needle with raffia and insert it into the center to fasten. Continue coiling and fastening to the adjacent strip in an outward direction until the piece is as large as desired. Sometimes the strand may dangle the needle as the fingers flatten the upper part against the core strip. As the fastening strand becomes used merely lay it against the core strands, lay a new strip against this and begin anew. As the coiling begins the old end and the new strip will be caught.



Finish the mat by wrapping the flat wet strand over the cut core and smoothing over so no bump is visible. Work the strand to the center and clip it there.

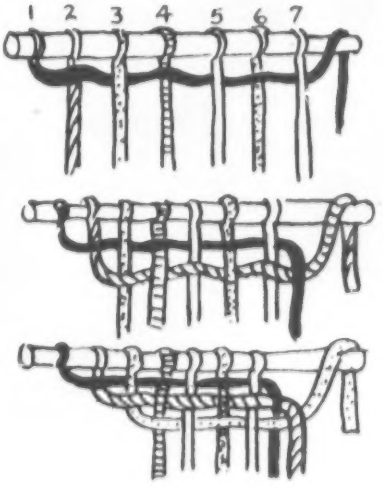
If different colors of raffia are used a checked effect will result. Several small mats may be sewn together to form a larger one. To build up a basket set the core up over the flat base and continue this at the angle desired. Shellac may be used as a finish.

A simple variation involves blanket stitching around a "doughnut" of cardboard with raffia or yarn. A loop is made around the side and the raffia brought up and slipped through. These circles may be sewn together. No needle is necessary. Fingers can pull the stiff strand through.



Diagonal Weaving

Tie the strands to a pencil or rod placed in a stationary position. Use an uneven number of strand groups of color - 3 natural strands, 3 brown, 3 blue, etc. so that a thick enough strand is used. Beginning on the left weave over and under all others until the first group falls on the right side. Hook this over the pencil.



Begin with the next group which is on the left and continue with a reversed over-under sequence. When this line reaches the right the first line which is hooked over the pencil is brought down woven in and the second color is looped over the pencil. A diagonal effect is achieved as this is continued.

BATIK

The process of applying wax to fabric and immersing in dye or brushing dye on.

Use a mixture of beeswax and paraffin (more paraffin for more crackle) and a bristle brush or tjanting tool. Sizes determine width of line. Never leave tools to cool in wax. Tips will break off. Tack fabric to frame or use newspapers underneath. If dye is mixed hot allow it to cool first. Use gloves to immerse fabric in dye. A previously dyed fabric will contaminate a dye bath. Brush the dye on instead.

ADDITIVE COLORS

Draw lightly in pencil
Use brush in wax to block in areas or lines
Immerse in light dye
Dry the fabric thoroughly
Rewax some of the dye areas
Brush on a deeper tone of dye or another color
Dry and rewax
Dye in a third tone by brushing
Continue for as many times as desired

e.g. yellow
orange
red
brown
black

MASKING OUT ONE COLOR

Decide on color scheme 1,2,3,4
Find a color outside the scheme - Color A
Draw and wax design
Apply Color A in a few areas
Dry this and wax over Color A
Dip entire piece in Color 1
Dry and rewax
Brush on Color 2, etc.

e.g. A=pink
scheme:
1 light blue
2 purple
3 navy
4 black

MASKING OUT COLORS-ONE OVERALL DYE

Draw design and wax lines with tjanting (like walls)
Dip in a light color dye (Color 1)
Dry and apply different dye colors in separate areas
Dry the piece thoroughly
Mask out the color areas with wax (Color 1 and added colors)
Crumple and lay on newspaper
Brush over final dye color

e.g. light blue

colors in areas

purple

CREATING WITH DYE

Draw design or use tjanting creatively
Dip cloth in water if desired
Brush dye on dry or wet fabric to merge
Allow to dry
Apply more wax lines over dyed areas
Brush on more dyes in areas
Continue process as desired

DYING FIRST

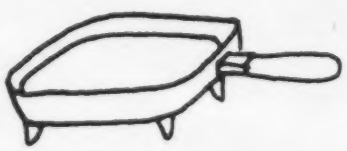
Brush dyes on dry or wet fabric
Dry fabric thoroughly
Wax over the design created
Brush on more dye areas
(Apply bleach where color is too dark)
Continue as desired

BLEACH OUT

Wax a design on colored fabric
Immerse in bleach or brush it on
(Waxed areas will stay the cloth's color)
Dry the fabric
Apply dye in the bleached out areas
Rewax and dye as desired

STAMPING

Dip tools in melted wax and stamp onto the material
Immerse in dye
Restamp or use tjanting
Continue as desired



An electric fry pan with a thermostat is the best heating apparatus for batik.

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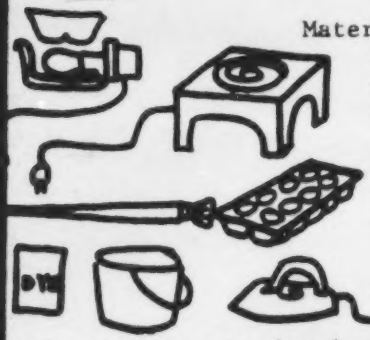
CRAYON BATIK ON CLOTH

This new variation of the traditional cloth dyeing process uses melted old crayons instead of beeswax, and one dyeing rather than many. It is complicated and possibly dangerous so permission of a school official should be obtained before doing it in a classroom. A haze will appear in the room from the melting crayons.



Materials needed:

Hotplate or light bulb arranged for melting crayons
Muffin tin (this may be set in a pan of water)
Old unwrapped crayons (not the large size) (no oil pastels)
Old stiff brushes (they'll never be the same again!)
Pads of newspaper
Iron
Pieces of washed light cloth (small pieces 9x12" are sufficient for beginners)
Mixed dye cooled in a bucket

All children may sketch an idea on paper, then revise it and pencil it on cloth. Only the number of children who can comfortably work around the hotplate may participate. To have more than one hotplate in use may cause a short in the electrical circuit. Caution against dripping wax on the hotplate. Have one area set aside for the hotplate, another part of the room (sink area) for dyeing and still another area for ironing.

Place the hotplate on a table covered with newspaper. Preheat the hotplate. Mix dye with hot water and set aside to cool. Put broken crayons in separate sections of the muffin tin. While these are melting each participant places a piece of cotton cloth on a fold of newspapers. Using an old stiff brush, dip into the melted crayon and apply the wet hot wax to the cloth. The wax must penetrate the cloth to stain it. Check to see that it is coming through to the back of the cloth. Cover most of the cloth leaving little empty space. Choose crayon colors that are <u>different</u> from the dye color to be used. No overlapped color will change the effect of the first color. When the design is complete and the wax has hardened, crumple the entire piece to achieve cracks on the surface.

Carry the piece on a fresh fold of newspaper to the dyeing area. Wearing rubber gloves immerse the crumpled piece in the bucket or pan of dye. Carefully remove the wet piece and lay it out on the newspaper. Let the batik dry about twenty minutes.

With the hotplate disconnected, plug in the iron or set it up in another room. Lay a sheet of newsprint over the dyed piece. Iron over this r[illegible]ing the sheet for a print. Place newspaper sheets over the piece until all [illegible]x is removed and the dye is dried.

The piece may then be used as a picture, hung on a rod, or bonded to cardboard for a book cover. It is beautiful held against light or a window.

This process uses the melted crayon to both stain the cloth and repel the dye. It creates a lovely crackled color effect. Experiment with the various dye colors until the best ones to suit you are found. Unfortunately black dye (which would show up all colors well) does not really stain deeply enough and sometimes appears gray. Interestingly, metallic crayons like silver and gold retain their sparkle after being ironed. Colored cloth is fun to try also; it transforms all crayon colors and produces a harmony of color. A very dark cloth cannot be used.

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PRINTING

Repeat printing involves pressing a painted or inked object against another to create a design that can be repeated many times. Objects may be dipped in paint, have thick paint brushed over them and the design transferred. With other materials such as cardboard and linoleum either a water base or oil base ink is rolled on with a brayer.

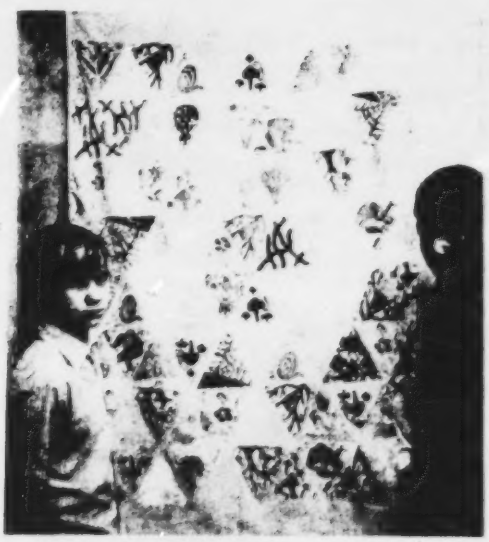
A perfect transfer is not always achieved, but variations in pressure cause interesting textures. Usually paint must be applied again for each print. A pad of newspapers under the surface to be printed is necessary for a good impression.

In both paint and ink two or more colors may be applied to an object or block. In brushing on paint color one side a color and change the color on the other side; rim the edge with one color and do the center differently. Be careful so that colors do not run.

In rolling out ink on a glass two colors that combine well may be rolled so that the rolled color is graded from one tone to another. Each linoleum print will thus be shaded.

In paint or ink printing each color must dry before overprinting is done.

Cut the printed papers into shapes, letters, frames, folders, book covers. Combine different prints together in a collage. Cover boxes with prints. Use them for wrapping paper. Water base ink or tempera may be printed on cloth for play aprons and curtains. Oil base ink or tempera may be printed on cloth for play aprons and curtains. Oil base ink on cloth produces permanent curtains and clothing.



PRINTING METHODS

Gadget Printing

For young children simple objects may be dipped in a pan where a paper towel pad is saturated with rather thick paint. They could also be brushed over with paint. Try various types of repetition with objects used singly or in combination with other objects. Too much variety is confusing. Without some instruction children tend to scatter the designs, use too many colors, and finish with no repetition at all. Some restrictions as to numbers of colors or objects create better designs.

Wood blocks and pieces
(some may be notched)

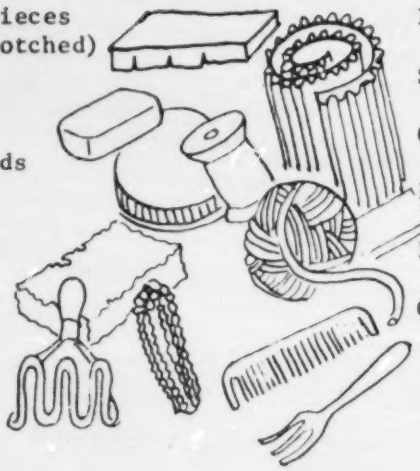
Block erasers

Spools, corks, lids

Cut sponges

Dried corncob

Potato masher



End of roll of corrugated paper

Styrofoam pieces

Crumpled piece of towelling or cloth

Ball of string

Rim of glass or caps

Comb, clothespin

Leaf Prints

Leaves may be placed with the veined side up and painted with a brush. The leaf is turned over and the veins will print on the paper in a linear design. Overprinting will create a network of lines. The same or other leaves may be used until a satisfying surface is achieved. Gold paint is a fine finishing touch.

Vegetable and Fruit Prints

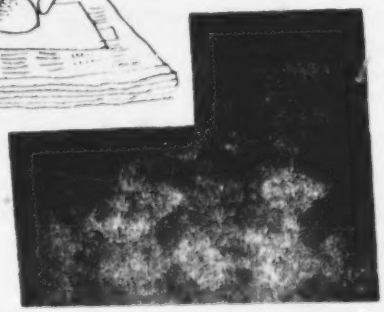
Cut a carrot, celery stalk, onion, cabbage, apple, orange, grapefruit or other firm vegetable to get a flat surface. Press off excess moisture on newspaper. Paint the surface with thick tempera and apply to paper in a repeat design.

Potato Prints

Cut a small potato into two or more pieces so that the flat surface may be carved. The edge may be notched with a knife. Designs may be carved on the inside by using a pen point reversed in the penholder so that the blunt end does the carving. Circles may be scooped out and longer lines routed out. The reversed pen point may also be used on the edge of the potato. Brush thick tempera on the stamped out potato and print it.

Clay Prints

A piece of clay may be shaped into a small handle and flattened base on which a design could be cut with a tool, pencil or reversed pen point. Brush a thin film of paint on paper, press the flat clay onto this to pick up paint and print on another paper. Too heavy pressure will destroy the design.



Brayer Prints

Wrap a string around the brayer. Place some printer's ink (water or oil base) on a sheet of glass, linoleum or wood. Roll the brayer over the ink, roll over a sheet of paper in one or more directions.

Place textured objects (lace, burlap, corrugated paper, string, screening, sandpaper, toothpicks) under the sheet of paper. Roll a brayer in ink for a thin ink covering. Roll this over the paper and over the textured objects and they will appear on the surface.

Mono Prints

Design a finger painting on shelf paper or on a formica type surface, keeping one hand clean. Place a sheet of paper over the wet finger paint, smooth down with the clean hand and a print will appear. When this print is dry it can be pressed to another color finger painting for a multiple effect. The same process could be done with printers' ink on glass scratched with tools such as a pencil.

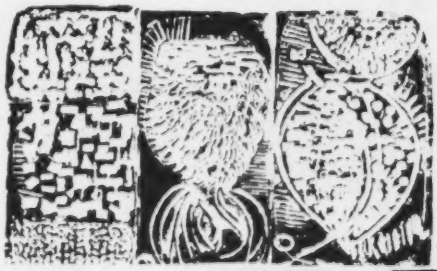
Roll a layer of ink on glass, linoleum or heavy cardboard. Carefully place a thin sheet of paper over this and draw over it with a sharp pencil, pressing the lines into the ink. Pull off the paper for a delicate line design print.

Cardboard

Cut a cardboard shape, apply paint or ink and press to paper. Holes cut in will leave unprinted areas. Corrugated paper will produce stripes.

On heavy cardboard glue on pieces of cardboard or felt in a well-fitted design. Let the piece dry thoroughly. Roll printers' ink over the design, turn over and apply to paper or cloth. On small pieces a handle may be stapled on for easier handling. The durability of cardboard will determine its wear.

Foam



On cut foam fruit trays design a line with a pencil. This depression will not take ink when a brayer with ink is rolled over. The ink foam sheet prints like linoleum.

String

On a sheet of cardboard plan a design in pencil. Go over this line with a thin stream of white glue. Immediately place a firm string on the glue line and allow the piece to dry thoroughly. Apply paint or ink and print.

Cardboard or Tin Can Rollers

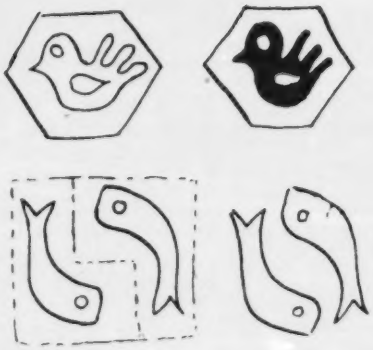
With white glue attach string or felt to firm cardboard rolls or tin cans opened at both ends. Allow overnight drying. Roll the prepared piece in an ink layer or brush paint over it. Placing fingers in the open ends roll it over a sheet of paper. The print will continue for a long strip until the paint is used up.

LINOLEUM PRINTING

For intermediate grades a linoleum print is a climax to previous printing techniques. It requires foresight and good design. Preparatory work might involve a lesson in cutting and pasting a dark, light and textured paper picture to teach that area rather than line is important in prints. Trying out the tools on scraps of linoleum helps test gouge width and texture effect. The battleship linoleum which is hard requires great care in cutting. The softer gray linoleum has the advantage of having a black core which contrasts with the surface to show details of cutting.

Design

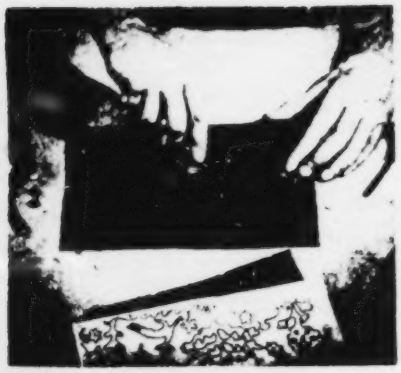
Plan a simple design of a decorative rather than realistic nature. Cut a piece of linoleum to fit the picture or cut a piece, trace around it on paper and redraw design to fit the shape. The linoleum is cut by pressing in a gouge line and bending the piece to snap the hold of the burlap backing. Draw the design's basic outline on the linoleum. Remember, everything will be reversed. Letters, thus, are not suitable unless first reversed. On the plan shade in with pencil what will be printed. Decide on whether the edges will carry the design or be blank. The outer shape of linoleum will not show if trimmed. Try odd shapes for fitted repeats.



Cutting

Linoleum cutting is done with gouges - V-shaped for fine lines, U-shaped for routing larger areas. Outline the main idea with the V gouge. Being very sure of what is to be removed and what will print, begin gouging by placing block on a bench hook with left hand well below block to avoid injury.

Bench Hook



Proper cutting

Improper cutting

Rout out unpencilled areas with strokes or dots. Do not gouge too deeply or slant in. Occasionally place a piece of newsprint over the linoleum and rub over with a pencil to see evolving design. Throw away all cut out pieces - they may land in the ink. (Any misconduct with gouges should disqualify students from further work.) Children tend to work with lines only so encourage area contrasts. The effect will be quite different depending upon whether the background is left or cut away. Gouge according to line of flow. Never gouge near ink area. Pieces often get mixed in ink and cause trouble.

Printing

Roll out proper ink (water base for paper, oil base for cloth) on a glass piece, (bound at edge with tape) or better, a piece of masonite. Roll back and forth evenly with a brayer for a thin layer. Too much ink will fill in opening on linoleum. Place readied block on newspaper. Roll a thin layer of ink over it. Place paper or cloth to be printed on a thick pad of newspapers on another table. If ink is on the same table accidents may occur and material will be in the ink supply. Press the inked block carefully on surface to be printed. Press down with fingers or roll a clean brayer over the block. Do not allow the block to move out of position. Pick up one edge to check pressure. Once it is completely lifted it can never be replaced exactly. Small pieces of paper (not cloth) can be turned over and pressing can be done face up. Of course, large areas of many repeats would be too wet for this technique. Continue repeats and over-printing. For two or more colors each must dry before the other is used. For alternating colors space can be estimated and skipped, then filled in later.

Cleaning

Be sure to wash rollers, linoleum and glass with soap and water for water base ink. Wipe oil ink off roller, linoleum and glass by pressing excess to newspaper first and then wiping with turpentine or thinner. Never allow ink to dry on any item. It is impossible to remove dried ink and rollers would be ruined.

PRINTING MATERIALS

Paints and Inks

Tempera paint is used with gadgets and cardboard on paper or on cloth not for permanent use. It should be fairly thick. Thinned out paint is not successful. If paint will not adhere to an object a drop or two of liquid soap will help.

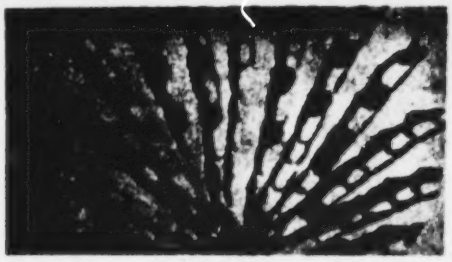
For an accent gold or silver paint may be used. Powdered metallic paint is mixed with water and used like tempera. Oil base gold paint should be used thickly. The sediment should be placed in the bottle cap and mixed with only a little of the liquid. Too much liquid will cause an oil ring. Brushes used must be washed in turpentine.

Textile paint is thick and works well on cloth for permanent pieces. It is usually brushed on but may be rolled out like ink. Oil base textile paint is cleaned with turpentine, aquabase with water.

Printer's ink is used with brayers and rolled on glass, linoleum or masonite. Water base ink may be cleaned with water and is used on paper or cloth that is not used permanently. Sometimes it is slow in drying. Oil base ink is cleaned with turpentine and is for cloth. It may be used with paper, but poses the additional cleaning problem.

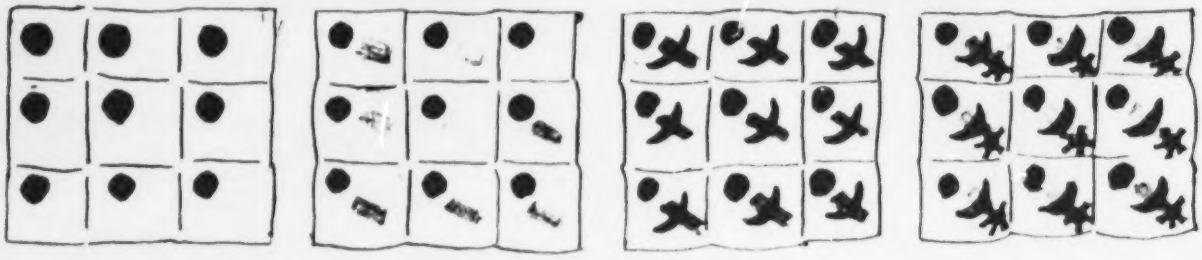
Papers

Newsprint, Newspaper - try this in learning the process and for preliminary samples.
Colored paper - darker colors are lovely
Wallpaper - with a fine design only
Tissue paper
Cloth - plain or with a fine print. Wash out sizing so that ink will not be lost in first washing. Fine grain cloth, not something as rough as burlap, gives a good print.

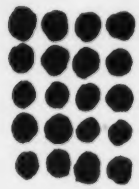


Printing in Sequence

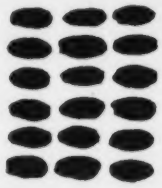
Fold paper in squares or other sections. Place a print in the same spot in each section. Place another design in a different spot in each section. Repeat this procedure until the surface is covered with the same design group in each section.



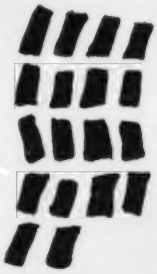
Repeat Designs

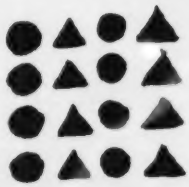


solid

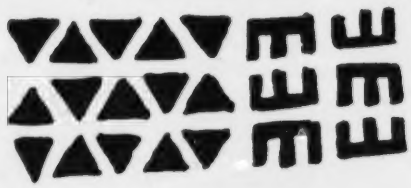


rows - straight or curving



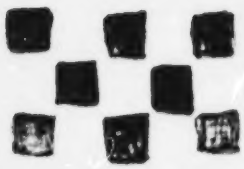


alternate rows

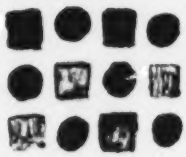


reversed

reversed



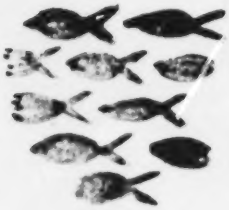
checker



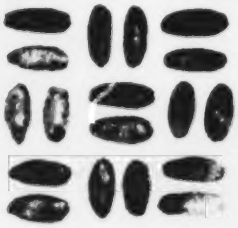
filled checker

fitted curves

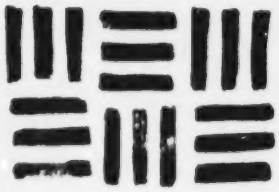
fitted geometric



fitted natural



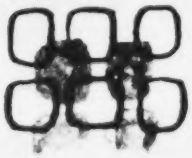
double



triple

half-drop

third-drop

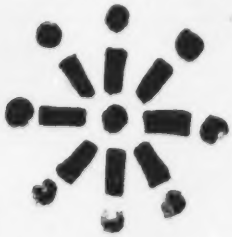


overlapped regularly, same shape

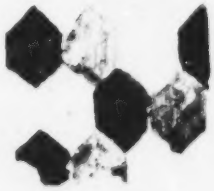
scattered, same shape

overlapped regularly, different shapes

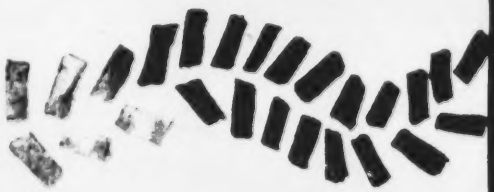
scattered different shapes



radiating



hexagon or octagon



growth pattern

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